SERVICE MANUAL AA-2D CHASSIS

MODEL	DEST.	COMMANDER	CHASSIS NO.
KV-32V68	*U.S.*	*RM-Y154*	*SCC-S07G-A*
KV-32V68	*CND*	*RM-Y154*	*SCC-S08J-A*
KV-35V68	*U.S.*	*RM-Y154*	*SCC-S07J-A*
KV-35V68	*CND*	*RM-Y154*	*SCC-S08L-A*

KV-35V68

RM-Y154

MICROFILM

GUIDEplus+ GOLD GEMSTAR

TRINITRON® COLOR TV

SONY®

SPECIFICATIONS

	KV-32V68	KV-35V68
Power requirements	120V, 60Hz	120V, 60Hz
Number of inputs/outputs:		
Video [1]	3	3
S Video [2]	2	2
Audio [3]	3	3
Audio Out [4]	1	1
Monitor Out	1	1
TV Out [1] [3]	1	1
S-Link	3	3
G-Link (IR Blaster)	1	1
Speaker output (W)	10W x 2	10W x 2
Power Consumption (W):		
In use (max.)	200W	230W
In standby	8W	8W
Dimensions (W/H/D):		
(mm)	821 x 675.3 x 587 mm	920 x 730.8 x 641.8 mm
(in.)	$32^{3/8}$ x $26^{5/6}$ x $23^{1/2}$ in	$36^{1/4}$ x $28^{3/4}$ x $25^{1/4}$ in
Mass:		
(kg.)	70 kg	93 kg
(lbs.)	154 lbs	205 lbs

Television system
American TV standard, NTSC

Channel coverage
VHF:2-13 / UHF:14-69 / CATV:1-125

Picture tube
Trinitron® tube

Visible screen size
32-inch picture measured diagonally (KV-32V68)
35-inch picture measured diagonally (KV-35V68)

Actual screen size
34-inch picture measured diagonally (KV-32V68)
37-inch picture measured diagonally (KV-35V68)

Antenna
75 ohm external antenna terminal for VHF/UHF

Supplied accessories
Remote control RM-Y154
Battery size AA (R6) w/2
IR Blaster

Optional accessories
Connecting Cables:
RK-74A, RK-G69HG
VMC-10HG/30HG, VMC-720M,
VMC-810S/820S, YC-15V/30V,
TV Stand: SU-32A3, SU-35A3
VHF/UHF Mixer: EAC-66

[1] 1 Vp-p 75 ohms unbalanced, sync negative
[2] Y: 1 Vp-p 75 ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms
[3] 500 mVrms (100% modulation), Impedance: 47 kilohms
[4] More than 408 mVrms at the maximum volume setting (variable)
More than 408 mVrms (fix); Impedance (Output): 2 kilohms

(●) ® SRS (SOUND RETRIEVAL SYSTEM)

The (●) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

The word 'SRS' and the SRS symbol (●) are registered trademarks of SRS Labs, Inc.

BBE and BBE symbol are trademarks of BBE Sound, Inc. and are licensed by BBE Sound, Inc. under U.S. Patent No. 4,638,258 and 4,482,866.

Design and specifications are subject to change without notice.

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WARNINGS AND CAUTIONS

CAUTION!

AFTER REMOVING THE ANODE, SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT.

WARNING!!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

ATTENTION!

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RESQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES SONT D'UNEIMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY. LES REGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRESENT MANUEL. SUIVRE CES PROCEDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONTIONNEMENT SUSPECTE.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are “pinched” or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, “metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampere). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63Trd are examples of passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-l00 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

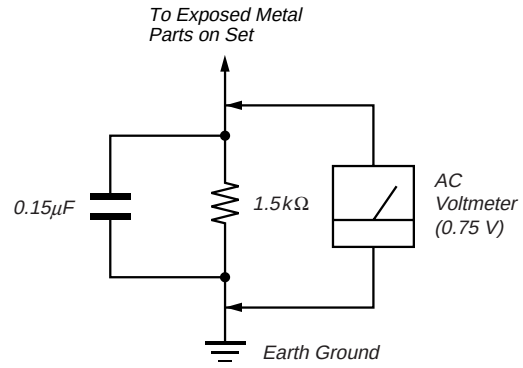


Fig. A. Using an AC voltmeter to check AC leakage.

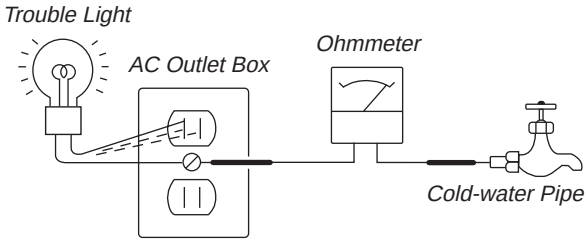


Fig. B. Checking for earth ground.

SECTION 1 GENERAL

The instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers shown reflect those of the Operating Instruction Manual.

Welcome!

Thank you for purchasing the Sony Trinitron® Color TV. Before reading this manual, check the model number located on the front of this manual or on the rear of your TV.

The menus shown in this manual are for model KV-35V68. Your menus may differ from the ones illustrated.

The features you will enjoy include:

- The GUIDE Plus+ interactive program guide system, which allows you to access program information in an on-screen program guide, sort programs by category, and to quickly schedule programs for viewing or recording. This service is yours with no monthly fee.
- Dual tuner PIP, which allows you to watch two programs at once without having to connect any additional equipment
- SRS, which allows you to listen to stereo programs in dynamic three-dimensional sound
- The FAVORITE CHANNEL feature, which allows you to preview each of your chosen favorite channels in a small window picture before you choose to tune to a particular station
- A front A/V input, for easy connection of your camcorder or game equipment
- An S Video input, for enhanced picture quality

Precautions

Safety

- Operate the TV only with 120 V AC .
- The plug is designed, for safety purposes, to fit in the wall outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.
- If any liquid or solid object should fall inside the cabinet, unplug the TV immediately and have it checked by qualified personnel before operating it further.
- If you will not be using the TV for several days, disconnect power by pulling the plug itself. Never pull on the cord.

For details concerning safety precautions, see the supplied leaflet "IMPORTANT SAFEGUARDS".

Note

- After you plug the TV back in, you must wait 24 hours before information will be available in the Program Guide.

Installing

- To prevent internal heat buildup, do not block the ventilation openings.
- Do not install the TV in a hot or humid place, or in a place subject to excessive dust or mechanical vibration.

Using This Manual

This manual is divided into five major sections. We recommend that you review the contents of each section in the order presented.

1 **Connecting and Installing the TV**
This section guides you through your initial set up.

2 **Basic Set Up**
This section teaches you the basic skills needed to operate your new TV. It shows you how to operate special functions of the remote control and the GUIDE Plus+ feature.

3 **Using your New TV**
This section shows you how to use the Easy Set Up Guide feature, and how to use your remote control.

4 **Using your Menus**
This section teaches you how to access on-screen menus and adjust your TV's settings.

5 **Troubleshooting**
This section helps you to correct problems you may encounter with your TV.

Instructions in this manual are written for the remote control. Similar controls may be found on the TV console.

Connecting and Installing the TV

Making Connections

Refer to the table below, it will direct you to the diagram suitable to the components you will be connecting.

If you will be connecting	See page
Cable or antenna only	3
Cable and antenna	3
Cable box	4
Cable box and cable to view scrambled channels	4
VCR and cable or antenna	5
VCR and cable box	5
Direct Broadcast Satellite Receiver (DBS)	6
VCR and Direct Broadcast Satellite Receiver (DBS)	6
Digital Versatile Disc player (DVD)	7
Audio system	7
A/V receiver	8
Two VCR's for editing	8
Camcorder to view tapes	9
IR Blaster Cable* (G-Link)	9
S-Link connections	10

*** IMPORTANT**

- You must connect the IR Blaster in order to operate your VCR and/or cable box with the GUIDE Plus+ feature.

Note

- When using the IR Blaster and a cable box, the cable box must always be left ON to allow GUIDE Plus+ to receive information about upcoming television programs.

Connecting and Installing the TV (continued)

Cable Box Connections

You must connect the IR Blaster in order to operate your cable box with the GUIDE Plus+ feature. (see "Connecting the IR Blaster" on page 9)

Some pay cable TV systems use scrambled or encoded signals that require a cable box to view all channels.

Cable box

1 Connect the coaxial connector from your cable to the IN on your cable box.
2 Using a coaxial cable, connect OUT on your cable box* to VHF/UHF on your TV.

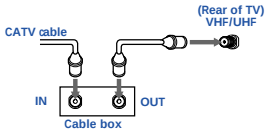
Cable box and cable

For this set up, you can switch between scrambled channels (through your cable box*), and normal (CATV) channels by pressing ANT on your remote control.

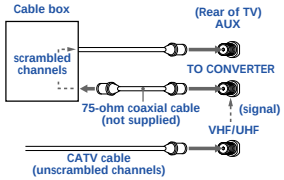
Notes

- The GUIDE feature will not function for items connected to the AUX input.
- When using PIP, you cannot view the AUX input (scrambled channels) in the window picture.
- If you are using a cable box with the GUIDE Plus+ feature, when viewing PIP the same picture will be displayed in the main and window picture. (see page 25)

* When using the IR Blaster and a cable box, the cable box must be left ON at all times to allow the GUIDE Plus+ feature to receive information about upcoming television programs.



If you are connecting a cable box through the AUX input and would like to switch between the AUX and normal (CATV) input, you should consider using the CHANNEL FIX feature discussed on page 31.



VCR Connections

You must connect the IR Blaster in order to operate your cable box with the GUIDE Plus+ feature.

Connecting an antenna/cable TV system with a VCR

1 Attach your cable or antenna to IN on your VCR.
2 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.*
3 Using a coaxial connector, connect OUT on your VCR to VHF/UHF on yourTV.

* If you are connecting a monaural VCR, connect only the single white audio output to the left input on your TV.

Connecting a VCR and TV with a cable box

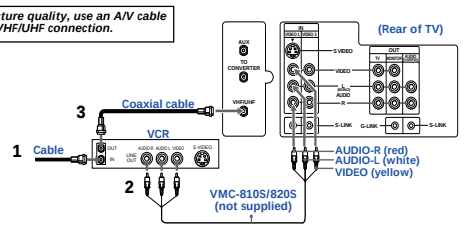
1 Attach your cable to IN on your cable box.**
2 Using a coaxial connector, connect OUT on your cable box to IN on your VCR.
3 Using a coaxial connector, connect OUT on your VCR to VHF/UHF on your TV.
4 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.

** When using the IR Blaster and a cable box, the cable box must be left **ON** at all times to allow the GUIDE Plus+ feature to receive information about upcoming television programs.

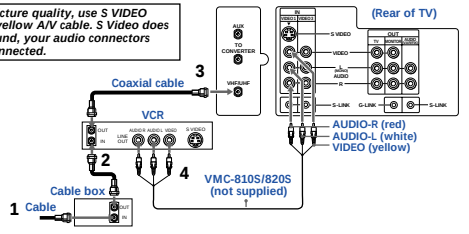
Notes

- To record programs using VCR Plus+, your VCR must be set to channel 3 or 4, preferably the channel which does not receive a broadcast channel in your area.

For superior picture quality, use an A/V cable instead of the VHF/UHF connection.



For optimum picture quality, use S VIDEO instead of the yellow A/V cable. S Video does not provide sound, your audio connectors must still be connected.



DBS Connections

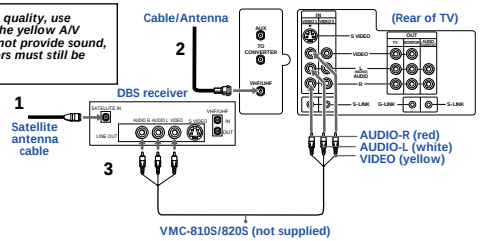
Connecting a DBS (Direct Broadcast Satellite) receiver

1 Connect the cable from your satellite antenna to SATELLITE IN on your DBS receiver.
2 Connect your cable or antenna to VHF/UHF on your TV.
3 Using A/V connectors, connect AUDIO and VIDEO OUT on your DBS receiver to AUDIO and VIDEO IN on your TV.

Connecting a DBS (Direct Broadcast Satellite) receiver and a VCR

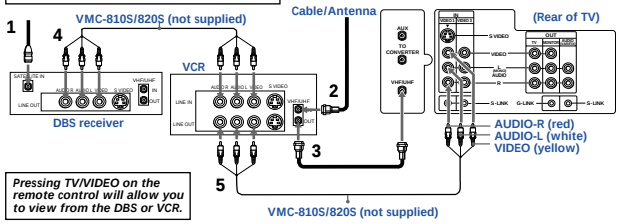
1 Connect the cable from your satellite antenna to SATELLITE IN on your DBS receiver.
2 Connect your cable or antenna to VHF/UHF IN on your VCR.
3 Using a coaxial connector, connect VHF/UHF OUT on your VCR to VHF/UHF on your TV.
4 Using A/V connectors, connect AUDIO and VIDEO OUT on your DBS receiver to AUDIO and VIDEO IN on your VCR.
5 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.

For optimum picture quality, use S VIDEO instead of the yellow A/V cable. S Video does not provide sound, your audio connectors must still be connected.



For superior picture quality, use an A/V cable instead of the VHF/UHF connection.

Pressing TV/VIDEO on the remote control will allow you to view from the DBS or VCR.

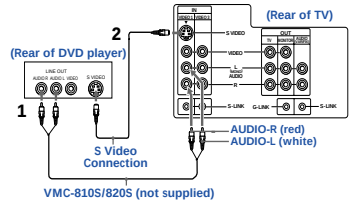


Additional Connections

The following connections are for accessories that will enhance your viewing options.

Connecting a DVD Player

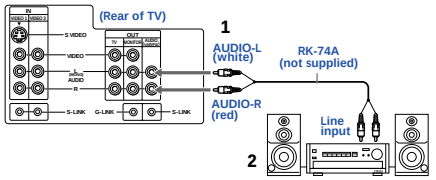
1 Using audio connectors, connect AUDIO-R and AUDIO-L OUT from LINE OUT on your DVD to AUDIO-R and AUDIO-L IN from VIDEO IN on your TV.
2 Connect S-Video from your DVD player to your TV.



Connecting an audio system

For enhanced sound, connect your audio system to your TV.

1 Using AUDIO connectors, connect AUDIO OUT on your TV to one of the unused line inputs (e.g. TV, AUX, TAPE 2) on your stereo.
2 Set your stereo to the chosen line input. Refer to page 29 of this manual for additional audio setup instructions.

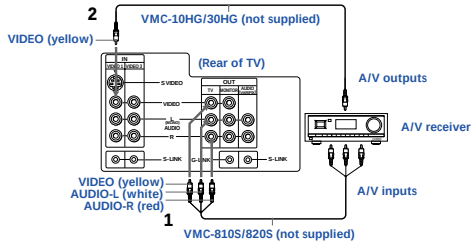


Connecting an A/V receiver

1 Using A/V cables, connect TV OUT on your TV to TV IN on your A/V receiver.
2 Using a single video connector, connect MONITOR OUT on your A/V receiver to VIDEO 1 IN on your TV.

Note

- When you are in a video mode (VIDEO 1, 2, or 3), you will not be able to access the GUIDE Plus+ feature.

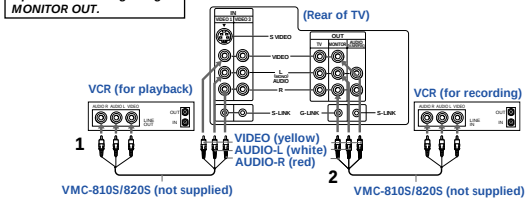


Connecting two VCRs for editing

MONITOR OUT gives you the ability to use a second VCR to record a program being played by the primary VCR or to perform tape editing and dubbing.

1 Connect the VCR intended for playback using the setup instructions on page 5 of this manual.
2 Using A/V connectors, connect AUDIO and VIDEO IN on your VCR intended for recording to MONITOR AUDIO and VIDEO OUT on your TV.

You should not change video inputs while editing using MONITOR OUT.



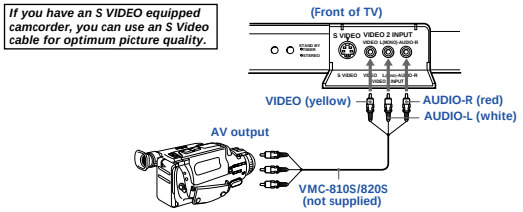
Connecting a camcorder

This connection is convenient for viewing a picture directly from your camcorder.
Using A/V connectors, connect AUDIO and VIDEO OUT on your camcorder to AUDIO and VIDEO IN on your TV.
Connection can also be made directly to your A/V input located on the rear of your TV.

Note

- If you are connecting a monaural camcorder, connect only the single white audio output to the left input on your TV.

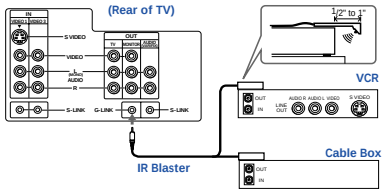
If you have an S VIDEO equipped camcorder, you can use an S Video cable for optimum picture quality.



Connecting the IR Blaster (G-Link)

You must connect your IR Blaster to automatically control your VCR and/or cable box with the GUIDE Plus+ feature.

1 Connect the IR Blaster to the TV's G-Link jack.
2 Place the IR Blaster on top of (or below) and overhanging the front of the VCR and/or cable box, about 1/2" to 1". For best results, place the IR Blaster directly above (or below) the VCR's and/or cable box's IR receiving area.
3 Set the manufacturer and code type of your VCR/cable box, using the GUIDE PLUS+ SET UP menu (see page 31). This code must be set for the GUIDE Plus+ feature to function properly.



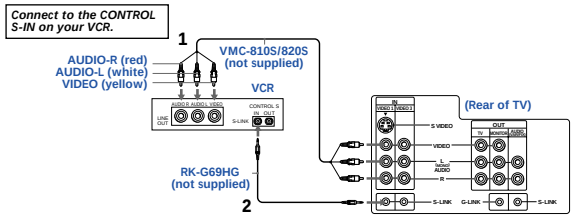
S-Link connections

S-Link is designed to allow your Sony components to "communicate."

Connecting S-Link to a VCR

S-Link will automatically power on the TV and switch to the correct video input when a tape is inserted in the VCR.

1 Using A / V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.
2 Using an S-Link connector (mini plug), connect S-LINK / CONTROL S-IN on your VCR to S-LINK on your TV.



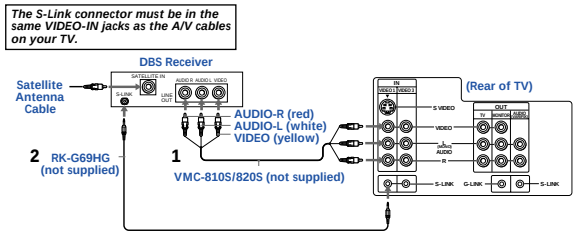
Connecting S-Link to a DBS

S-Link will automatically power on the TV and switch to the correct video input when you power on the DBS.

1 Using A / V connectors, connect AUDIO and VIDEO OUT on your DBS to AUDIO and VIDEO IN on your TV.
2 Using an S-Link connector (mini plug), connect S-LINK on your DBS to S-LINK on your TV.

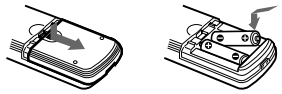
Note

- Do not connect S-Link to the G-Link jack on your TV.



Inserting batteries

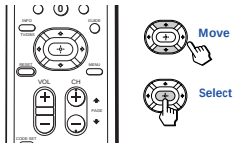
Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the battery compartment.



Notes

- Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.
- Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater, or where the humidity is high.
- Your remote control can be programmed to operate most video equipment. (see page 34)

Using the remote control move & select buttons



The supplied remote control has "arrow" buttons (↑, ↓, ←, →) which allow for movement of the on-screen selector. Pressing on the outer buttons will cause the selector to *move* in the corresponding direction. Pressing the center button (⊕) will select the item.

Adjustment bars

When menu items present an adjustment bar (▬ or ▬), use the arrow buttons to change the setting.

On-screen help/instructions

Several menu windows will provide prompts and instructions to assist you in navigating through the different functions.

When presented, use these to supplement the instructions in this manual.

Setting up the TV automatically

The Easy Setup Guide allows you to set the on-screen language and set all receivable channels in one step.

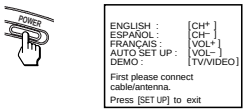
To set up the TV manually, refer to "Using the SET UP menu" on page 31.

Tips

- Perform this function during the day, with the antenna and / or cable properly connected, to ensure that all available channels will be broadcasting and receivable.
- The TV must be set to the TV input to execute AUTO PROGRAM. Press TV / VIDEO until a channel number appears.
- If your cable or antenna is connected to AUX, press ANT until AUX appears next to the channel number.

Using the buttons on the top of the TV:

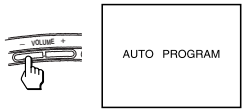
1 Press POWER to turn on the TV.
The Easy Setup Guide screen appears.



2 Make your language selection by pressing CH +, CH – or VOL +.

3 Press VOLUME – to continue or TV / VIDEO for a DEMO of functions and menus.

A message will appear, asking if you want to continue to AUTO PROGRAM. Press CH+ to continue.



AUTO PROGRAM appears and the TV starts scanning and presetting channels automatically. If the TV receives cable TV channels, CABLE is set ON automatically.

To perform AUTO SET UP again

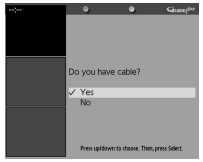
Press the SET UP button on the TV and follow steps 2-3.

Notes

- To reset your TV to factory settings, turn the TV on. Then, while pressing the RESET button on your remote control, press the POWER key on your TV. The TV will turn itself off, then back on.
- When you perform AUTO PROGRAM, your CHANNEL FIX, CHANNEL BLOCK, and ON / OFF TIMER settings, as well as your GUIDE Plus+ settings and program information will be erased.

Setting up the GUIDE Plus+™ feature

After you have set up your TV using the Easy Setup Guide, you will be prompted to set up your GUIDE Plus+ feature.
Several questions will appear on your screen. You will be asked to enter specific information, such as your location, zip or postal code, whether you will be connecting cable, a cable box, or a VCR, etc.



To answer each question, highlight the appropriate answer, and press the ⊕ button on the remote control. In some instances, like when you are asked to enter your zip or postal code, you will need to enter numerical information using the ↑ / ↓ buttons on the remote control.

After you have completed your GUIDE Plus+ set up, you can choose to view a Demo of the GUIDE Plus+ features. If you wish to view this Demo again, after you have exited from GUIDE Plus+ set up, you can re-enter GUIDE Plus+ set up through the TV's SET UP menu. (see GUIDE PLUS+ SET UP on page 31)

If you choose to set AUTO GUIDE to ON, the program guide will appear each time you turn the TV on using your remote control.

WIthin 24 hours of your initial set up of the GUIDE Plus+ feature, you will be able to view program guides on your TV.

If you make a mistake during your set up, or you would like to connect new components to your TV, you can reenter the GUIDE Plus+ SET UP menu. (see "GUIDE PLUS+ SET UP" on page 31)

Notes

- PIP must be OFF to allow the GUIDE Plus+ feature to receive program information.
- If you have connected a cable box to your TV, the TV must be turned off, and the cable box left on, in order to receive program information.
- If there is more than one cable company in your area, you will be asked to choose a "Channel Map" which matches yours (i.e., Fox =6, NBC = 7, etc).
- The GUIDE Plus+ feature menus are only available in English.
- The GUIDE Plus+ feature may not be available in all areas. If the GUIDE Plus+ feature is not available in your area, please contact the Sony Direct Response Center at the number listed on page 38 of this instruction manual.

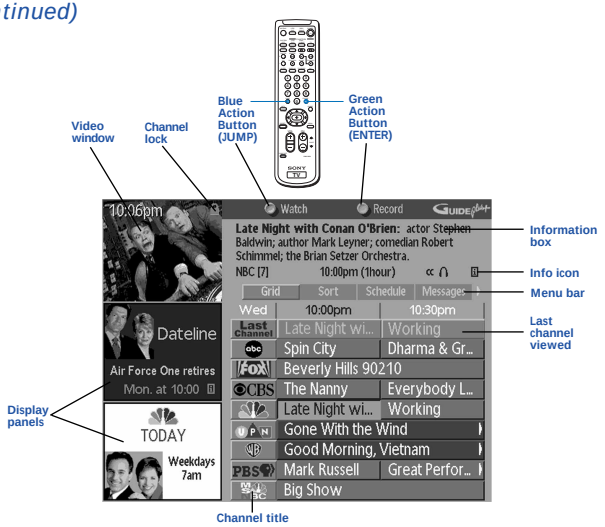
Using the GUIDE Plus+ Feature

The GUIDE Plus+ feature allows you to see local TV programming, set your VCR to record programs, sort programs by category, set your TV to turn on and tune to a program, and receive information about program content. All this can be done while viewing your current channel in a video window.

Press GUIDE to view the first screen, the Program Grid.

Notes

- When you press MENU, the highlight jumps to the menu bar.
- The GUIDE Plus+ feature will not function when your video source is from video equipment or from the AUX input.
- Press the ANT button to return to the VHF / UHF input before accessing the GUIDE Plus+ feature.



Using the GUIDE Plus+ Feature	
Video Window	The video window allows you to view a program while in the Program Grid. Pressing the button while using the GUIDE Plus+ feature will lock/unlock the video window, so the picture will remain the same as you move through the Program Grid.
Channel Lock	This symbol indicates whether Channel Lock is on or off. Pressing the button while using the GUIDE Plus+ feature will lock/unlock the video window, so the picture will remain the same as you move through the Program Grid.
Blue Action Button	This symbol and corresponding text indicates what will happen when you press the Blue Action Button (JUMP) on your remote control.
Green Action Button	This symbol and corresponding text indicates what will happen when you press the Green Action Button (ENTER) on your remote control.
Information Box	Provides information regarding each program which is highlighted as you scroll through the Program Grid.
Info Icon	Icon appears if additional information about a program being described in the Information box is available. When the Info icon appears, press the (INFO) button on the remote control to access additional information.
Menu Bar	Offers several options for setting up and using the GUIDE Plus+ feature. Menu items include GRID (see page 20), SORT (see page 21), SCHEDULE (see page 21), MESSAGES (see page 22), EDITOR (see page 22), and SETUP (see page 22).
Last Channel Viewed	While in the grid, the last channel viewed will remain highlighted in gray.
Display Panels	Display panels show information about future programming. After highlighting a display panel, you will be able to access expanded program information for the program advertised, when this information is available. After you have highlighted a display panel, you can press (JUMP) to schedule the program for viewing, or (ENTER) to schedule the program for recording.
Channel Ads	Sometimes, a channel ad will be displayed within the Program Grid. After highlighting a channel ad, you will be able to access expanded information for the program or channel advertised, when this information is available. After you have highlighted a display panel, you can press (JUMP) to schedule the program for viewing, or (ENTER) to schedule the program for recording.

Using the GUIDE Plus+ Buttons

The GUIDE Plus+ feature offers on-screen program information. Use the chart and illustration on this page to learn how to access and use the GUIDE Plus+ feature with your remote control.

Note

- You must connect your IR Blaster in order to operate your VCR and / or cable box. This will allow the GUIDE Plus+ feature to tune to and record programs.

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

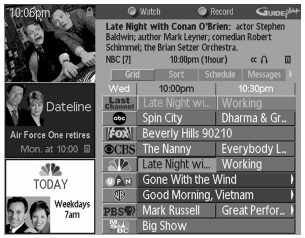
Use the Purple Labeled Buttons for the GUIDE Plus+ Feature Operations	
VCR+	Pressing the VCR+ button allows you to program your VCR to record TV programs using the VCR Plus+ code system. You can find the PlusCode programming number codes in your newspaper's Program Guide. You must have a VCR and an IR Blaster properly connected and set up in order to record programs using the VCR Plus+ feature. Press VCR+ again to exit the VCR Plus+ screen. Once a program has been scheduled for recording using the VCR Plus+ system, you can review your selection, change the frequency of recording, or cancel the recording within the GUIDE Plus+ SCHEDULE screen. (see "SCHEDULE" on page 21)
	Pressing the button while using the GUIDE Plus+ feature will lock/unlock the video window, so the picture will remain the same as you move through the Program Grid.
JUMP	Press the (JUMP) button to choose the left (blue) action button (as displayed at the top of the Program Grid).
ENTER	Press the (ENTER) button to choose the right (green) action button (as displayed at the top of the Program Grid).
INFO	Pressing the INFO button will show additional information about a selected program or future programming on the selected channel, if available. An info icon will appear on the screen to indicate when information is available. *You must press the INFO button again to return to basic information.*
GUIDE	Pressing the GUIDE button will activate the GUIDE Plus+ screen. Pressing again will exit the GUIDE Plus+ screen.

Use the Purple Labeled Buttons for the GUIDE Plus+ Feature Operations	
CH	Press to scroll ▲/▼, a page at a time, while in the GUIDE Plus+ screen.
MENU	Pressing the MENU button will move you between the grid and the menu bar.
	Press the arrow keys (◄, ▲, ►, ▼) to scroll in any direction while using GUIDE Plus+ and press the select button to choose the option.

Learning to view a program using the GUIDE Plus+ feature

Use the GUIDE button to access the Program Grid and use the arrow buttons (♦ or ♦) to select a program. Use the following example, in which we select a program to be viewed to learn how to use the GUIDE Plus+ feature.

1 Press the GUIDE button.
The Program Grid appears.



2 Press ♦ to highlight the desired program (in this case "Spin City").

3 Press ⊕ to select the program.

Learning to schedule viewing and recording using the GUIDE Plus+ feature

1 Press the GUIDE button.
The Program Grid appears.

2 Use the ♦/♦/♦/♦ buttons to move to a future program which you would like to schedule for viewing.

3 Press the blue action button (JUMP) to select WATCH.

4 Press GUIDE to return to the last channel viewed.

To automatically schedule future viewing:

Press the blue action button (JUMP) once, and the program will automatically be scheduled for viewing at the time indicated within the Program Grid. The color of the highlight within the Program Grid will change to red to indicate that this program has been scheduled for viewing.

To enter the Schedule Menu to set up future viewing:

Press the blue action button (JUMP), then the green action button (ENTER). Your scheduled viewing option will appear on the screen.

To change the frequency of your scheduled viewing:

In the Schedule Menu, press the green action button (ENTER) to change your viewing option. As you press the green action button (ENTER), you will cycle through the frequency viewing options (once, daily, or weekly).

Note

- You must connect your IR Blaster in order to operate your VCR and / or cable box. This will allow the GUIDE Plus+ feature to tune and record programs.

To schedule recording

Follow the directions provided on this page for scheduling viewing. In step 3, press the green action button (ENTER) instead of the blue action button (JUMP). This will schedule the chosen program for recording. A program scheduled for recording will appear highlighted in orange within the Program Grid.

Note

- The VCR must be set up correctly during GUIDE Plus+ set up in order for scheduled recording to function properly.

To cancel viewing or recording

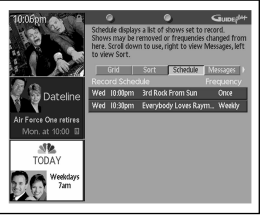
If you wish to cancel viewing or recording of a program, enter the schedule screen, highlight the program, and press (JUMP).

GRID *The main viewing screen*	The program title of the last channel viewed is highlighted and basic information for the program is displayed in the information box. Use the ♦/♦/♦/♦ buttons to navigate to different program names, time slots (through midnight of the following day), and channel ads within the grid. **To record a program:** To record a program, you must first connect the IR Blaster. (see "Connecting the IR Blaster" on page 9) **1** Highlight the program title and press the blue action button (JUMP). **2** To change your scheduled recording, press the green action button (ENTER) again. Once you enter the schedule screen, you can choose to record the program once, repeatedly (daily, weekly), or to cancel recording. **To schedule to watch a program:** **1** Highlight the program title and press the blue action button (JUMP). **2** To change your scheduled viewing, press the green action button (ENTER). Once you enter the schedule screen, you can choose to watch the program once, repeatedly (daily, weekly), or to cancel scheduled viewing. **To jump to a specific channel within the grid**, enter the channel number on the remote control's keypad. **To lock/unlock the video window**, press the (PIP) button. A lock icon will appear in the video window when the picture is locked. **Unlocked**, the video window will display the current program as you scroll through the channel listings. **Locked**, the video window will not change as you scroll through the channel listings. If you set the lock while in the grid, the video window will remain locked to the channel you are on. If the lock is already set when you enter the grid, the video window will be locked to the last channel viewed.

Notes

- You must connect the IR Blaster in order to operate your VCR and / or cable box with the GUIDE Plus+ feature.
- When using the IR Blaster and a cable box, the cable box must be left ON at all times to allow GUIDE Plus+ to receive information about upcoming television programs.
- The TIMER light on the front panel of your TV will not light up when programs are scheduled for viewing using the GUIDE Plus+ feature "WATCH" function.
- If you have connected your TV to a cable box, and are recording using the GUIDE Plus+ feature, you will not be able to change channels during recording.

SORT *To watch/record movies*	SORT allows you to organize, select and schedule programs to watch and record. While in the Program Guide: **1** Press MENU. **2** Press ♦ to highlight SORT and press ⊕. First level SORT appears on the screen, displaying the last category selected (Movies, Sports or Children's). **3** Press ♦ to choose a new category, then press ⊕. **4** Press ♦ to choose a new subcategory, then press ⊕. **5** After choosing a subcategory, you will be able to view all programs available in that subcategory over an eight day period. To schedule a program to be watched, press the blue action button (JUMP). To schedule a program to be recorded, press the green action button (RECORD). If expanded information about a program in the sort screen is available, the ⓘ will appear in the Information Box. Press INFO to access this information. The display panels within SORT show information about future programming. After highlighting a display panel, you will be able to access expanded program information ⓘ for the program advertised, when this information is available. After you have highlighted a display panel, you can press (JUMP) to schedule the program for viewing, or (RECORD) to schedule the program for recording.
SCHEDULE *To adjust program scheduling*	SCHEDULE allows you to adjust viewing/recording times of programs. While in the Program Grid: **1** Press MENU. **2** Press ♦ to get to SCHEDULE and press ⊕. A list of programs scheduled to be watched and/or recorded appears on the screen. **3** To REMOVE a scheduled program, scroll to it and press the blue action button (JUMP). To CHANGE a scheduled program, scroll to it and press the green action button (ENTER). Programs that have been scheduled for viewing will appear in red within the Program Grid. Programs that have been scheduled for recording will appear in orange within the Program Grid.



Using Your New TV (continued)

MESSAGES *To view messages*	MESSAGES allows you to view system messages. While in the Program Guide: **1** Press MENU. **2** Press ◆ to get to MESSAGES and press ⊕. Messages related to the system will be displayed, if none are available the GUIDE Plus+ ID number will be displayed. If messages remain unread for a prolonged period, they will be automatically deleted.
EDITOR *To turn channels ON/OFF in the*	EDITOR allows you to adjust channel availability within the grid while using the GUIDE Plus+ feature. While in the Program Guide: **1** Press MENU. **2** Press ◆ to get to EDITOR and press ⊕. All channels available are listed. **3** To CANCEL any further changes, press the blue action button (CANCEL). **4** To turn a channel ON/OFF, scroll to it and press the green action button (ENTER). **To reassign a channel number**, highlight the channel within the EDITOR screen, and enter the new channel number on the remote control's keypad. The order of channels within the Program Grid cannot be changed The GUIDE Plus+ EDITOR functions independently of your TV's CHANNEL SKIP/ADD feature. (see page 31 for information on CHANNEL SKIP/ADD)
SETUP *To use or program the GUIDE Plus+*	SETUP allows you to start/change the GUIDE Plus+ feature settings and to view a demonstration of its features. While in the Program Guide: **1** Press MENU. **2** Press ◆ to get to SETUP and press ⊕. The setup screen will appear. **3** To change your settings, select SETUP. **4** To view the demonstration, select DEMO.

Watching the TV

The following chart will explain the function of the buttons found on your remote control.

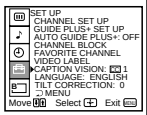
REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART

Using the White Labeled Buttons for TV Operations	
VTR/DVD, DBS/CABLE, POWER (TV)	Press when you want to turn connected equipment on and off. *You can program your remote control to operate other video equipment. (see "Operating Video Equipment" on page 34)*
FUNCTION: VTR/DVD, DBS/CABLE, TV	Press when you want to control connected equipment with your remote control. (see pages 34-36 for instructions on programming your remote control)
0 - 9 and ENTER	Use for direct channel selection. Press 0-9 to select a channel, the channel will change after 2 seconds, or you can press ENTER for immediate selection.
CH + / –	Press to scan through the channels. *Keeping the CH + or – pressed allows you to rapidly scan to the desired channel.*
JUMP	Press to alternate or *jump* back and forth between two channels. You can jump between the last two channels selected with the 0-9 keys. *This button can also be used to activate on-screen options while using the GUIDE Plus+ feature.*
MUTING	Press to mute the sound (MUTING will appear on the screen). Press again or press VOL + to restore sound.
SLEEP	Press repeatedly until the TV displays the approximate time in minutes (30, 60, or 90) that you want the TV to remain on before turning off automatically. Cancel by pressing until SLEEP OFF appears.

Using Your New TV (continued)

Using the White Labeled Buttons for TV Operations	
ENTER	Use to activate a channel selected with the 0-9 buttons. *Use to activate on-screen options while using the GUIDE Plus+ feature.*
MTS	Pressing the MTS button will cycle through the MTS options (STEREO, SAP, MONO). (see the MTS section in "Using the AUDIO ♪ menu" on page 29)
DISPLAY	Press repeatedly to cycle through the available displays: **Status** Channel number, current time, channel caption (if set) are displayed. **CAPTION VISION** Closed captioning will be displayed if the broadcaster offers this service. (see right) To cancel the display, press DISPLAY until DISPLAY OFF appears.
TV/VIDEO	Press repeatedly to cycle through available video inputs: **TV, VIDEO 1, VIDEO 2 and VIDEO 3** *When you are in a video mode (VIDEO 1, 2, or 3), you will not be able to access the GUIDE Plus+ feature.*
ANT *(AUX input)*	Press to change the VHF/UHF input to the AUX input. Press to change from VIDEO input to TV input. For detailed connection information, see "Cable and antenna" or "Cable box and cable" on pages 5-6. *The GUIDE Plus+ feature cannot be accessed in AUX mode.*
TV/VTR +	Press when you are finished using a VCR and you want to switch to the TV input when your remote control is in VCR mode. Your VCR power will remain on.
SYSTEM OFF	The SYSTEM OFF button allows you to power off all Sony equipment at once.

CAPTION VISION
(Closed Caption)



CAPTION VISION can be used for programs that are broadcast with closed captioning.

CC1, 2, 3 or 4
Shows you a printed version of the dialog or sound effects of a program. (The mode should be set to CC1 for most programs)

TEXT1, 2, 3 or 4
Shows you network/station information presented using either half or the whole screen.

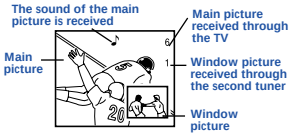
XDS (Extended Data Service)
Shows a network name, program name, program length, and time of the show if the broadcaster offers this service.

Note
- Poor reception of TV programs can cause errors in CAPTION VISION and XDS. Captions may appear with a white box or other errors instead of intended text.

Watching two programs at one time - PIP

These models are equipped with dual tuners. This means that PIP is "ready to use".

REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART


The sound of the main picture is received
Main picture
Main picture received through the TV
Window picture received through the second tuner
Window picture

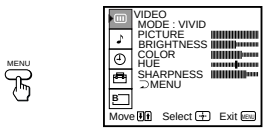
Notes
- You must press TV (FUNCTION) before you can control PIP with the yellow labeled buttons.
- The AUX input cannot be viewed in the window picture.
- If you have connected a cable box and activated the GUIDE Plus+ feature, the same picture will appear in both the main picture and window picture.

Use the Yellow Labeled Buttons for PIP Operations	
	Press once to display the window picture (1/9 size). Press again to reduce the size of the window picture (1/16 size). Press a third time to remove the window picture.
TV/VIDEO	Press repeatedly to cycle through available video inputs: **TV, VIDEO 1, VIDEO 2, VIDEO 3**
AUDIO	Press to alternate sound between the main picture and the window picture. A ♪ will appear for a few seconds to indicate which picture is receiving sound.
TV/VTR + CH –	Press to change the TV channel in the window picture.
POSITION	Press to move the location of the window picture (counterclockwise) around the main picture.
FREEZE	Press to freeze the window picture. Great for copying down phone numbers, addresses, recipes, etc. *Press FREEZE again to restore the picture.*
SWAP	Press to switch the audio and video of the main picture and the window picture. Each time you press SWAP, the picture and sound of the two will be *swapped.*

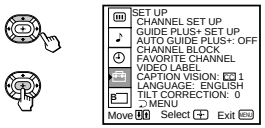
Learning menu selection

Use the MENU button to access a menu and use the arrow buttons (♦ or ♦) to alter settings. Use the following example, in which we activate the CABLE, to learn how to modify settings.

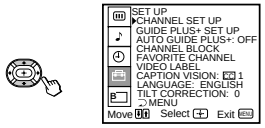
1 Press the MENU button.
The main menu appears.



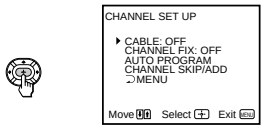
2 Press ♦ or ♦ to highlight the desired menu (in this case SET UP) and press ⊕ to select it.



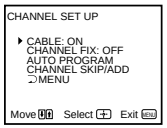
3 Press ♦ or ♦ to move to the desired option.



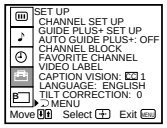
4 Press ⊕.
Options for your selection will be highlighted.



5 Press ♦ or ♦ to make your selection and press ⊕.



When you are finished making changes to the selected menu, choose ⤾ MENU to return to the main menu.



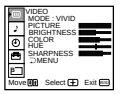
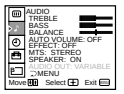
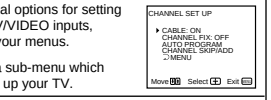
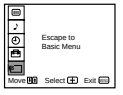
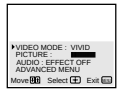
Notes

- Pressing MENU on the remote control will allow you to exit from the menus at any time.

Quick start to the menus

The following will give you a quick start to the options available for setting up your TV.
For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 25.

To select a menu:

	The VIDEO menu allows you to make adjustments to your picture settings. It will allows you to customize the picture MODE based on the type of program you are viewing.
	The AUDIO menu offers enhanced audio options such as listening to second audio programming (SAP), or customizing the EFFECT of the sound on your TV.
	The TIMER menu sets the clock on your TV and allows you to program your TV for scheduled viewing using the ON/OFF TIMER.
	The SET UP menu provides several options for setting up your channels, labeling your TV/VIDEO inputs, and selecting the LANGUAGE of your menus. The CHANNEL SET UP menu is a sub-menu which provides further options for setting up your TV. 
	The Basic Menu provides quick access to frequently used settings. 

Using the VIDEO menu

For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

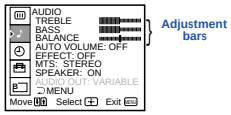
To select the VIDEO menu:

To restore the factory VIDEO settings

Press RESET while the VIDEO menu is displayed.

MODE *Customized picture viewing*	**VIVID:** Select for a vivid, bright picture for daytime viewing. **STANDARD:** Select to receive a standard picture. **MOVIE:** Select for night time movie viewing.
PICTURE *Picture contrast*	Adjust left to decrease picture contrast and soften the color. Adjust right to increase picture contrast and create more vivid color.
BRIGHTNESS *Picture adjustment*	Adjust left to darken the picture. Adjust right to brighten the picture.
COLOR *Color saturation*	Adjust left to decrease color intensity or saturation. Adjust right to increase color intensity or saturation.
HUE *Color tones*	Adjust left to increase the red tones. Adjust right to decrease the red tones.
SHARPNESS *Picture detail*	Adjust left to soften the picture detail. Adjust right to sharpen the picture detail.

Using the AUDIO ♪ menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the AUDIO ♪ menu:

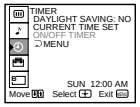
To restore the factory AUDIO settings

Press RESET while the AUDIO menu is displayed.

TREBLE	Adjust left or right to decrease or increase higher pitched sound.
BASS	Adjust left or right to decrease or increase low pitched sounds.
BALANCE	Adjust left or right to emphasize right and left speaker volume.
AUTO VOLUME *Stabilizes volume*	**ON:** Select to stabilize the volume. **OFF:** Select to turn AUTO VOLUME off. *Press ⊕ for direct selection of AUTO VOLUME settings.*
EFFECT *Enhanced audio options*	Press ♦ or ♦ to select one of these customized effects: **SIMULATED**: Adds a stereo-like effect to mono programs. **SRS**: Produces a dynamic three dimensional sound for stereo audio signals.
MTS *Enjoy stereo, bilingual and mono programs*	**MTS:** Press ♦ or ♦ to select one of the following options: **STEREO**: Select when viewing a broadcast in stereo. **SAP**: Select to listen to bilingual broadcast. (Non-SAP programs will be muted when this feature is selected) **MONO**: Select to reduce noise during stereo broadcasts for areas of weak reception. ***Quick MTS access:** Press MTS on your remote control to cycle through the MTS options.*
SPEAKER *Custom selection of audio output source*	**ON:** Select to listen to the sound from the TV speakers with or without a separate stereo system. **OFF:** Select to turn off the TV speakers and listen to the TV's sound only through external audio system speakers.
AUDIO OUT *Use to control the TV's volume through a stereo*	AUDIO OUT can only be set when SPEAKER is set to OFF. **VARIABLE:** Sound output varies according to the TV settings. *Useful when you want to use your TV's remote control to adjust the output of a separate audio system.* **FIXED:** Sound output is held at a fixed level through your stereo. *Use your A/V receiver's remote control to adjust the volume.*

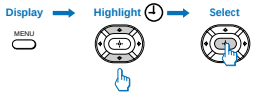
Using Your Menus (continued)

Using the TIMER menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the TIMER menu:



To cancel the ON/OFF TIMER function

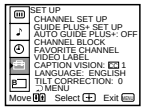
Press RESET while the ON / OFF TIMER menu is displayed.

Note

- The GUIDE Plus+ feature will automatically set your clock. If the DAYLIGHT SAVING and CURRENT TIME SET options are grayed out, this is because the clock has automatically been set.
- Your TV's ON / OFF TIMER will not function when you are watching a program which has been scheduled for viewing using the GUIDE Plus+ feature.

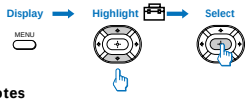
DAYLIGHT SAVING *Automatically adjusts the time*	Set DAYLIGHT SAVING time before setting the clock. **Spring:** Select YES to compensate for Daylight Saving Time. The current time moves one hour ahead. **Fall:** Select NO at the end of Daylight Saving Time. The current time moves back one hour.
CURRENT TIME SET *Necessary for the ON/OFF TIMER*	With the CURRENT TIME SET menu open: **1** Press ⊕. **2** Press ↑ or ↓ until the current day is displayed. Press ⊕ to select. **3** Press ↑ or ↓ until the current hour and AM/PM is displayed. Press ⊕ to select. **4** Press ↑ or ↓ until the current minute is displayed, press ⊕. The clock is set. Press MENU to exit. *Any loss of power will cause these settings to be erased.*
ON/OFF TIMER *Wake up or scheduled viewing*	With the ON/OFF TIMER menu open: **1** Press ⊕. **2** Press ↑ or ↓ until the desired day or range of days is displayed. Press ⊕ to select. **3** Indicate the time that you want the TV to turn on by pressing ↑ or ↓ and then ⊕. **4** Set the time duration (maximum of 6 hours) by pressing ↑ or ↓ and then ⊕. **5** Press ↑ or ↓ until you reach the desired channel. Press ⊕ to select. The ON/OFF TIMER is now set. Press MENU to exit. *When you perform AUTO PROGRAM, all ON/OFF TIMER settings will be erased.*

Using the SET UP menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the SET UP menu:



Notes

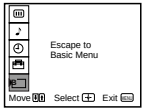
- Your remote control can be programmed to operate your cable box. (see page 36)
- When using the GUIDE Plus+ feature with a cable box, the CHANNEL FIX function will not be available. Your TV is automatically fixed to the appropriate channel using the GUIDE Plus+ feature.
- ON / OFF TIMER and CHANNEL BLOCK settings will be erased when CHANNEL FIX is set.
- If you use the CHANNEL FIX feature, you will not be able to tune to channels through the GUIDE Plus+ Program Guide.

CHANNEL SET UP *Basic set up options for viewing* *The functions within the CHANNEL SET UP menu will not be available if you use a cable box with the GUIDE Plus+ feature.*	With the CHANNEL SET UP menu open: Press ↑ or ↓ to access a feature, then press ⊕. **CABLE:** Select ON if your TV is connected to a cable system. After setting CABLE, you will need to run AUTO PROGRAM **CHANNEL FIX:** Press ↑ or ↓ to set the TV's input to one of the following options: **2-6:** When a cable box is connected to the VHF/UHF input. Press DBS/CABLE (FUNCTION) and then CH +/– to change channels through your cable box. **AUX 2-6:** When a cable box is connected to AUX and a cable or antenna is connected to VHF/UHF. You can alternate between the two inputs by pressing ANTon the remote control. **VIDEO 1:** When you have connected video equipment (e.g. A/V receiver) and you want the TV input fixed to it. You will be able to alternate between video sources using the A/V receiver. **OFF:** When you want to turn CHANNEL FIX off. **AUTO PROGRAM:** Instructs the TV to program all receivable channels. **CHANNEL SKIP/ADD:** With the CHANNEL SKIP/ADD window open: **1** Select the desired channel. **2** Press ⊕ to SKIP or ADD (only one option will be available).If you SKIP or ADD a channel, the channel's status within the Program Grid will not change. To add or delete channels in the grid, you must use the EDITOR function. (see page 22)
GUIDE PLUS+ SET UP	This activates the GUIDE PLUS+ set up screen. (see "SET UP" on page 13) *The GUIDE PLUS SET UP menu cannot be accessed when you are in AUX, or VIDEO 1/2/3 mode.*
AUTO GUIDE PLUS+	**ON:** The GUIDE Plus+ feature automatically appears when the TV is turned on using the remote control. **OFF:** You must press the GUIDE button to access the GUIDE Plus+ feature.

Using Your Menus (continued)

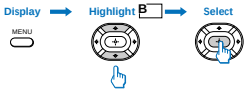
CHANNEL BLOCK *Prevent child access to certain channels*	With the CHANNEL BLOCK window open: **1** Choose 1 or 2 and press ⊕. **2** Press ↑ or ↓ to display the channel you want to block, press ⊕ to activate. When you select the blocked channel, BLOCKED will appear on the screen. *When you perform AUTO PROGRAM, your CHANNEL BLOCK settings will be erased.* *To erase the CHANNEL BLOCK settings, press RESET while the CHANNEL BLOCK menu is displayed.* *The CHANNEL BLOCK feature will not be available if you use a cable box with the GUIDE Plus+ feature.*
FAVORITE CHANNEL *Quick access to favorite channels*	**Setting FAVORITE CHANNEL:** **1** Press ⊕ and then ↑ or ↓ to select AUTO or MANUAL. (Selecting AUTO will display the last five channels chosen with the remote control's 0-9 buttons.) **2** Press ↑ or ↓ to move the cursor to 1, 2, 3, 4 or 5 and press ⊕. **3** Press ↑ or ↓ to access the desired channel and press ⊕. *To preview your favorite channels in the window picture, set PREVIEW to ON.* If you are using a cable box with the GUIDE Plus+ feature, the PREVIEW function will not be available. **Using FAVORITE CHANNEL:** **1** Press ⊕ when in normal viewing mode. Your FAVORITE CHANNEL options will appear. **2** Press ↑ or ↓ to access the channel you want to watch, and press ⊕. *If PREVIEW is ON, a window picture displays your favorite channels as you cycle through the options.* Channels selected through the AUX input will not appear in the FAVORITE CHANNEL menu.
VIDEO LABEL *Label connected equipment for easy recognition*	With the VIDEO LABEL window open: **1** Press ↑ or ↓ to access the input mode you want to label and press ⊕. **2** Press ↑ or ↓ to choose the label and press ⊕. **VIDEO LABEL Options:** VIDEO 1: VHS, 8mm, BETA, LD, GAME, DBS, DVD, WEB, RECEIVER, DTV. VIDEO 2/3: VHS, 8mm, BETA, LD, GAME, DBS, DVD, WEB, RECEIVER, DTV, SKIP. *When VIDEO LABEL is set to WEB, the picture will darken, creating an ideal picture for WebTV viewing. If you select SKIP, your TV will skip this connection when you cycle through video sources using the TV/VIDEO button.*
LANGUAGE	Select from available languages to display all menus in your language of choice. *GUIDE Plus+ menus are only available in English.*
TILT CORRECTION *Adjust your picture*	(***KV-35V68 only***) Use this feature to correct any tilt of the picture. Press ↑ or ↓ to select a correction between +5 and –5 and press ⊕.

Using the Basic Menu



For detailed information on using the remote control to modify menu settings, refer to "Learning menu selection" on page 26.

To select the Basic Menu:



Note

- The TV automatically displays the last menu used when MENU is pressed.

Basic Menu *Quick access to frequently used settings*	With the Basic Menu window open: **1** Press ↑ or ↓ to access the feature you want to change. **2** Press ⊕ to select. **VIDEO MODE:** Press ↑ or ↓ to set the TV to one of the following settings: **VIVID:** Select for a vivid, bright picture for daytime viewing. **STANDARD:** Select to receive a standard picture. **MOVIE:** Select for night time movie viewing. (see page 28) **PICTURE:** Press ↑ or ↓ to adjust the picture contrast. (see page 28) **AUDIO**: Press ↑ or ↓ to set your audio to one of the following settings: **SIMULATED**: Adds a stereo-like effect to mono programs. **SRS**: Produces a dynamic three dimensional sound for stereo audio signals. (see page 29) **ADVANCED MENU**: Select when you want to return to the main menus.

Oprating Video Equipment

Programming the remote

You can use the supplied remote control to operate Sony or non-Sony video equipment.

1 Press CODE SET.
2 Press VTR / DVD (FUNCTION).
3 Use the 0-9 buttons to key in the manufacturer's code number from the following chart.
4 Press ENTER.

VCR code numbers

Manufacturer	Code
Sony	301, 302, 303
Admiral (M. Ward)	327
Aiwa	338, 344
Audio Dynamic	314, 337
Broksonic	319, 317
Canon	309, 308
Citizen	332
Craig	302, 332
Criterion	315
Curtis Mathes	304, 338, 309
Daewoo	341, 312, 309
DBX	314, 336, 337
Dimensia	304
Emerson	319, 320, 316, 317, 318, 341
Fisher	330, 335
Funai	338
General Electric	329, 304, 309
Go Video	322, 339, 340
Goldstar	332
Hitachi	306, 304, 305,338
Instant Replay	309, 308
JC Penney	309, 305, 304, 330, 314, 336, 337
JVC	314, 336, 337, 345, 346, 347
Kenwood	314, 336, 332, 337
LXI (Sears)	332, 305, 330, 335, 338
Magnavox	308, 309, 310
Marantz	314, 336, 337
Marta	332
Memorex	309, 335
Minolta	305, 304
Mitsubishi/MGA	323, 324, 325, 326
Multitech	325, 338, 321
NEC	314, 336, 337
Olympic	309, 308
Optimus	327
Panasonic	308, 309, 306, 307
Pentax	305, 304
Philco	308, 309
Philips	308, 309, 310
Pioneer	308
Quasar	308, 309, 306
RCA/PROSCAN	304, 305, 308, 309, 311, 312, 313, 310, 329
Realistic	309, 330, 328, 335, 324, 338
Sansui	314
Samsung	322, 313, 321
Sanyo	330, 335
Scott	312, 313, 321, 335, 323, 324, 325, 326
Sharp	327, 328
Shintom	315
Signature 2000 (M. Ward)	338, 327
SV2000	338
Sylvania	308, 309, 338, 310
Symphonic	338
Tashiro	332
Tatung	314, 336, 337
Teac	314. 336, 338, 337
Technics	309, 308
Toshiba	312, 311
Wards	327, 328, 335, 331, 332
Yamaha	314, 330, 336, 337
Zenith	331

Operating a VCR	Buttons on the remote control
To turn on or off	Press VTR/DVD (POWER).
To select a channel directly	Press the 0 – 9 buttons.
To change channels	Press CH +/–.
To record	Press ► and ● simultaneously.
To play	Press ►.
To stop	Press ■.
To fast forward	Press ▶▶.
To rewind the tape	Press ◀◀.
To pause	Press ❚❚. To resume normal playback, press again or press ►.
To scan	Press ▶▶ or ◀◀ during playback. To resume normal playback, release the button.
To change input mode	Press TV/VTR.

Tips

- In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote control. In this case, please use the equipment's own remote control.
- When you remove the batteries, the code number may revert to the factory setting.
- The code numbers for Sony VCR's are assigned at the factory as follows:

VHS VCR	301 (preset code for the supplied remote control)
8 mm VCR	302
Beta, ED Beta VCRs	303

MDP (Multi Disc Player) code numbers

Manufacturer	Code
Sony	701
Panasonic	704, 710
Pioneer	702

Operating an MDP	Buttons on the remote control
To turn on or off	Press VTR/DVD (POWER).
To play	Press ►.
To stop	Press ■.
To pause	Press ❚❚. To resume normal playback, press again or press ►.
To scan	Press ▶▶ or ◀◀ during playback. To resume normal playback, press ►.
To search the chapter forward or backward	Press CH +/–.

Tip

If you will not be programming a DBS or cable box into the DBS / CABLE input, you can use it to program other video equipment (e.g. DVD, MDP, or second VCR). (see page 36)

DVD (Digital Versatile Disc) code numbers

Manufacturer	Code
Sony	751
Panasonic	753
Pioneer	752
RCA	755
Toshiba	754

Operating a DVD player	Buttons on the remote control
To turn on or off	Press VTR/DVD (POWER).
To play	Press ►.
To stop	Press ■.
To pause	Press ❚❚. To resume normal playback, press again or press ►.
To scan	Press ▶▶ or ◀◀ during playback. To resume normal playback, press ►.
To search the chapter forward or backward	Press CH +/–.
To select chapters directly	0–9 + ENTER.
MENU	Press to display DVD menu.
To move cursor in menu	Use your arrow buttons ↑, ↓, ←, →.

Troubleshooting

Consult the table below; it suggests solutions to specific problems.

Problem	What it could be	What you can do
The TV does not turn on and a red light keeps flashing on the TV for more than a few seconds	• Your TV may need service.	• Call your local Sony service center.
TV makes a noise when turned on	• This is a normal function of your TV.	
Screen is not lit and there is no sound	• Power cord may not be plugged in. • Batteries may not have been placed with the correct polarity. • TV / VIDEO setting may be incorrect.	• Press TV / VIDEO until you receive a channel.
Poor or no picture (screen lit), good sound	• VIDEO menu settings may not be adjusted correctly. • Antenna / cable connections may be faulty. • VIDEO LABEL inputs may be set to WEB. (This label darkens the screen for ideal WebTV viewing)	• Readjust your VIDEO menu settings. (see page 28) • Check your VIDEO LABEL settings. (see page 32)
Good picture, no sound	• Sound may be set to MUTING. • Your TV may be set to SAP. • Speaker may not be set correctly.	• Press MUTE. • Check the MTS setting in the AUDIO menu. (see page 29) • Check your SPEAKER settings. (see page 29)
No color	• Color settings may not be adjusted correctly.	• Adjust the COLOR settings in the VIDEO menu. (see page 28)
Only snow and noise appear on the screen	• CABLE may not be set correctly in the SET UP menu. • Antenna / cable connections may not be correct. • TV may be set to AUX mode.	• Ensure that you have selected the correct CABLE mode in the SET UP menu. (see page 31) • Press ANT on your remote control to change the input mode. (see page 24)
Cannot receive upper channels (UHF) when using an antenna	• CABLE setting may not be correct in the SET UP menu.	• Ensure that CABLE is set to OFF in the SET UP menu. (see page 31) • Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (see page 31)

Troubleshooting (continued)

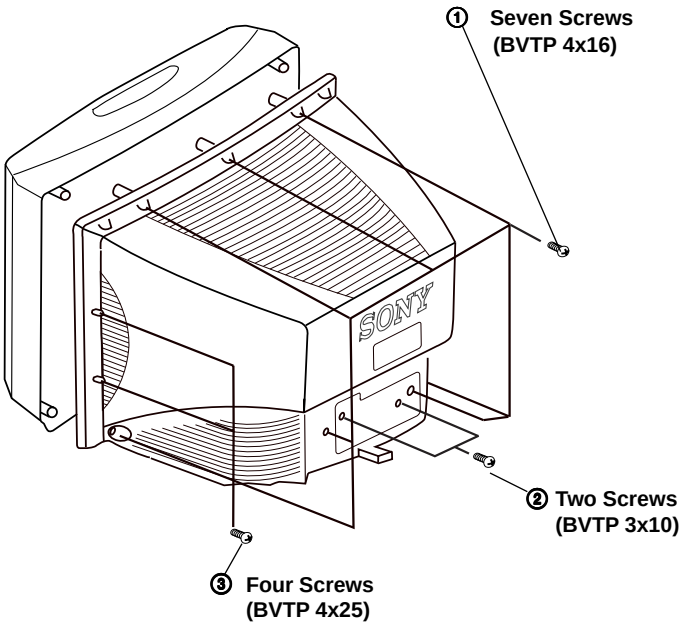
Problem	What it could be	What you can do
Cannot receive any channels when using cable	• CABLE setting may not be set correctly in the SET UP menu.	• Ensure that CABLE is set to ON in the SET UP menu. (see page 31) • Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (see page 31)
Cannot gain enough volume when using a cable box	• Volume may not be adjusted on your cable box.	• Press TV (FUNCTION) and adjust the TV's volume.
TV is fixed to one channel	• CHANNEL FIX settings may not be correct.	• Check your CHANNEL FIX settings. (see page 31)
Program information is not available in the Program Grid	• Cable box is not turned ON. • You have entered the wrong Zip Code during SET UP. • IR Blaster is positioned incorrectly. • Your reception could be poor. • PIP must be turned off to allow the GUIDE Plus+ to download program information when the TV is turned on. (see "Setting up the GUIDE Plus+ Feature" on page 13)	• Cable box must be left on at all times. • Position the IR Blaster directly in front of your Cable box's IR receiving area. • If you have connected a cable box to your TV, you must turn off the TV using the TV's remote control. Do not power the TV off using the cable box switch.
Channel numbers within the GUIDE do not correspond to the appropriate channel logos.	• GUIDE Plus+ feature is set incorrectly.	• Perform GUIDE Plus+ SET UP again, ensuring that the appropriate Zip or Postal Code, Cable Setting, and Channel Map are chosen. (see page 13)
Programs scheduled for recording are not recorded.	• IR Blaster is positioned incorrectly. • Your VCR was setup incorrectly. • When VCR and cable box are used together, the VCR must be set to channels 3 or 4, whichever the cable box is set to	• Position the IR Blaster directly in front of your Cable box's IR receiving area. • Reenter the GUIDE Plus+ SET UP screen and enter correct VCR information. (see page 31) • When the recording process begins, the VCR must be turned off.

If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Direct Response Center at 1-800-222-SONY (7669) (U.S. residents only) or (416) 499-SONY (7669) (customers in Canada only)

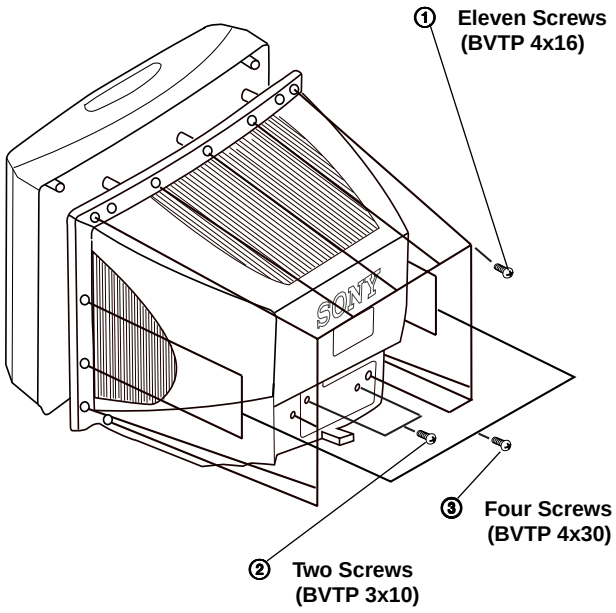
SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL

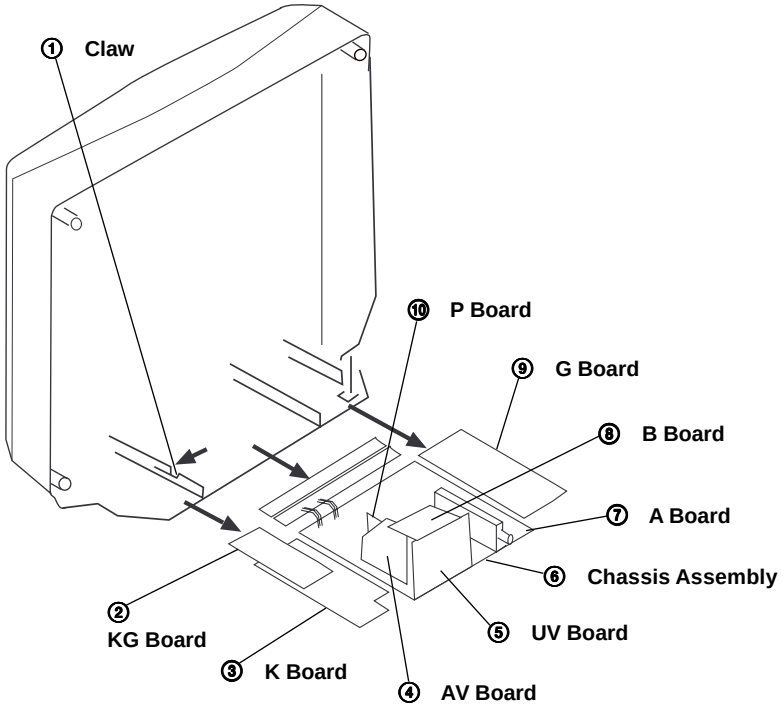
(KV-32V68)



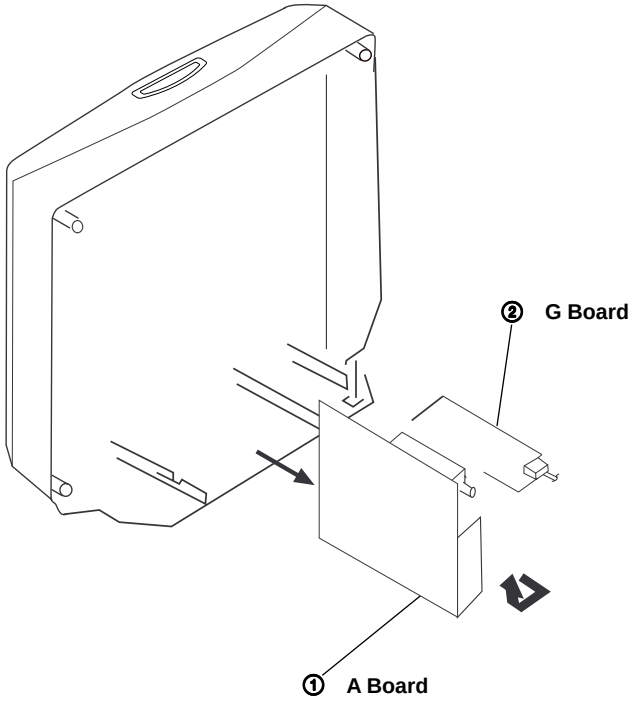
(KV-35V68)



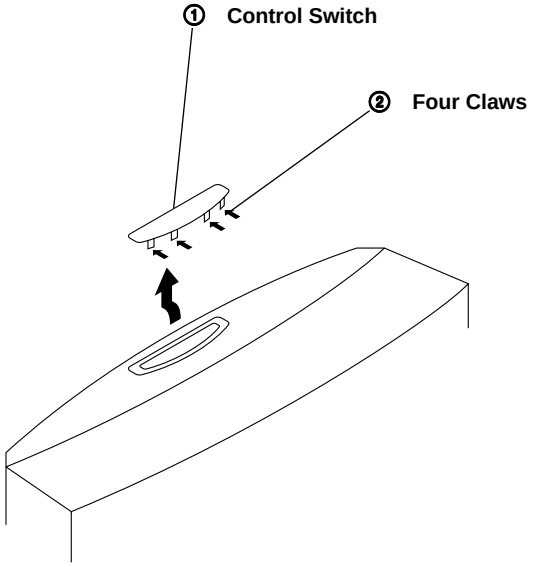
2-2. CHASSIS ASSEMBLY REMOVAL



2-3. SERVICE POSITION



2-4. CONTROL SWITCH REMOVAL

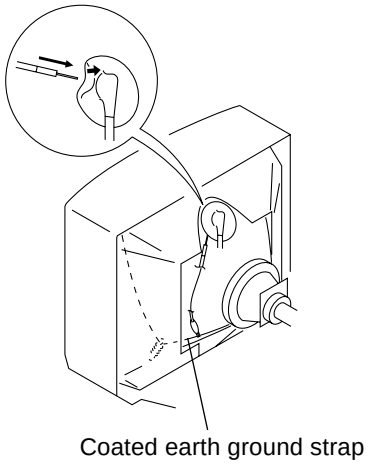


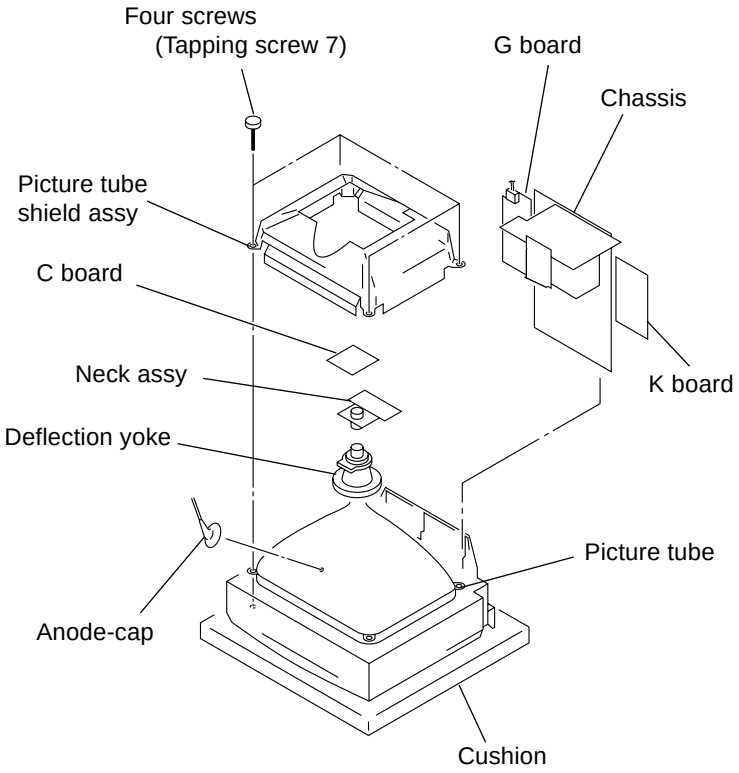
2-5. PICTURE TUBE REMOVAL

WARNING -- Before removing anode-cap:

High voltage remains in the CRT even after the power is disconnected.

To avoid electrical shock, discharge CRT before attempting to remove the anode-cap. Short between anode and coated earth ground strap of CRT.



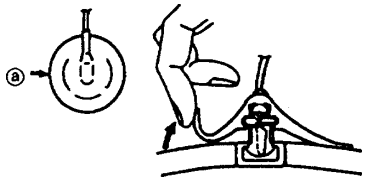


ANODE-CAP REMOVAL

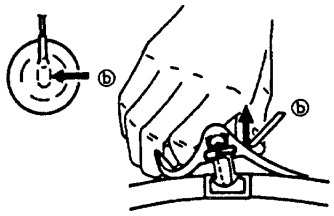
WARNING: High voltage remains in the CRT even after the power is disconnected. To avoid electrical shock, discharge CRT before attempting to remove the anode-cap. Short between anode and coated earth ground strap of CRT.

NOTE: After removing the anode, short circuit the anode of the picture tube and the anode cap to either the metal chassis, CRT shield, or carbon painted on the CRT.

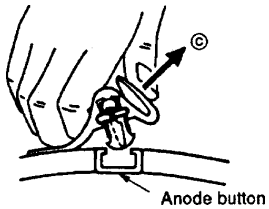
REMOVAL PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by arrow ⓐ.



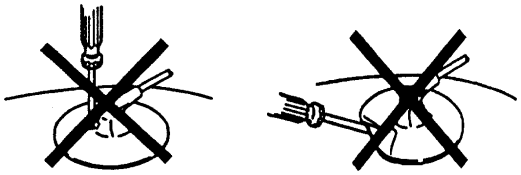
② Use your thumb to pull the rubber cap firmly in the direction indicated by arrow ⓑ.



③ When one side of the rubber cap separates from the anode button, the anode-cap can be removed by turning the rubber cap and pulling it in the direction of arrow ⓒ.

HOW TO HANDLE AN ANODE-CAP

① Do not use sharp objects which may cause damage to the surface of the anode-cap.
② Do not squeeze the rubber covering too hard to avoid damaging the anode-cap. A material fitting called a shatter-hook terminal is built into the rubber.
③ Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.



SECTION 3
SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed.

These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch should be set as follows unless otherwise noted:

PICTURE control ..... normal

BRIGHTNESS control ..... normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2)/White Balance

Note: Test Equipment Required

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter

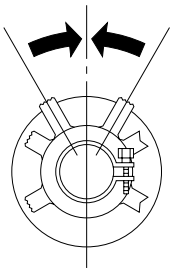
3-1. BEAM LANDING

Preparation:

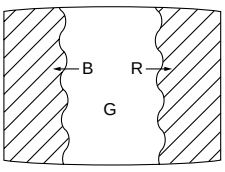
- Input a white pattern signal.
- Face the picture tube in an East or West direction to reduce the influence of geomagnetism.

NOTE: Do not use the hand degausser because it magnetizes the CRT .

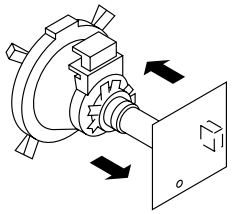
1. Input white pattern from pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown below:



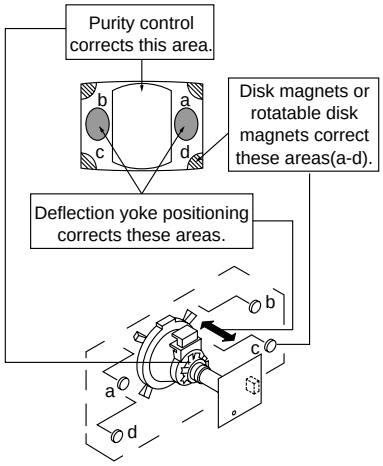
3. Input green pattern from pattern generator.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are even on both sides.



5. Move the deflection yoke forward, and adjust so that the entire screen becomes green.



6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corner is not right, adjust by using the disk magnets.



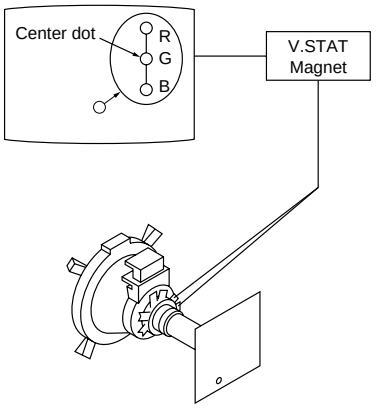
3-2. CONVERGENCE

Preparation:

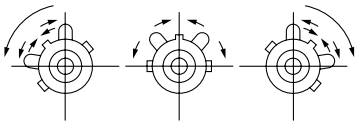
- Before starting, perform FOCUS, V. LIN and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Input dot pattern.

(1) Vertical and Horizontal Static Convergence

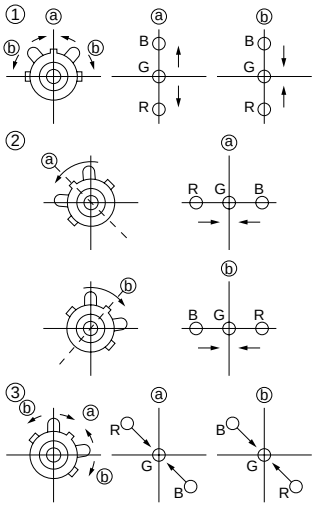
1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)



Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



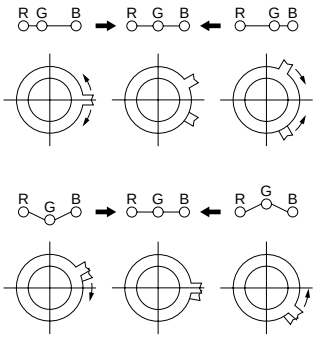
2. When the V. STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green, and blue dots move as shown below:



Operation of BMC (Hexapole) Magnet

The respective dot positions resulting from moving each magnet interact, so perform adjustment while tracking.

Use the VSTAT tabs to adjust the red, green, and blue dots so they line up at the center of the screen (move the dots in a horizontal direction.)

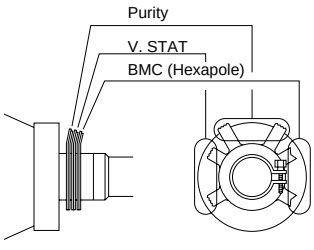


Y Separation Axis Correction Magnet Adjustment

1. Input cross-hatch pattern, adjust PICTURE to minimum and BRIGHTNESS to normal.

2. Adjust the deflection yoke upright so it touches the CRT.

3. Adjust so that the Y separation axis correction magnet on the neck assembly is symmetrical from top to bottom (open state).

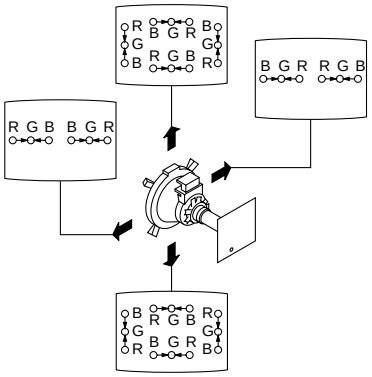


4. Return the deflection yoke to its original position.

(2) Dynamic Convergence Adjustment

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

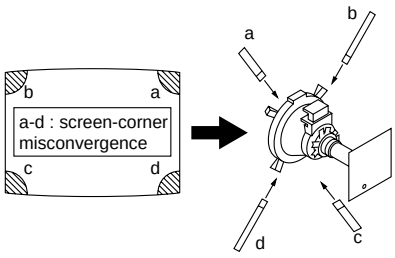
1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below:



4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

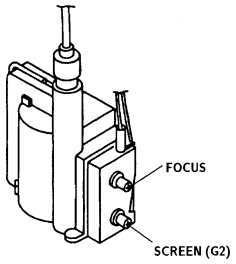
(3) Screen-corner Convergence

Affix a permalloy assembly corresponding to the misconverged areas:



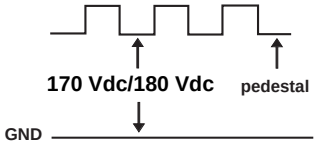
3-3. FOCUS

Adjust FOCUS control for best picture.



3-4. SCREEN (G2)

1. Input dot pattern from the pattern generator.
2. Set the PICTURE and BRIGHT controls at normal.
3. Adjust S BRT, G CUT, B CUT in service mode with an oscilloscope so that voltages on the red, green, and blue cathodes are 170Vdc for 35" and 180Vdc for 32".
4. Observe the screen and adjust SCREEN (G2) VR to obtain the faintly visible background of dot signal.



3-5. WHITE BALANCE ADJUSTMENTS

NO.	Disp.	Item	Avg/32"	Avg/35"
16	GDRV	Green Drive	22	35
17	BDRV	Blue Drive	30	26
18	GCUT	Green Cut-off	5	8
19	BCUT	Blue Cut-off	7	6
25	SBRT	Sub Bright	26	26

1. Input an entire white signal.
2. Set to Service adjustment Mode.
3. Set DCOL to "0"
4. Set the PICTURE and BRIGHT to minimum.
5. Adjust with SBRT if necessary.
6. Select GCUT and BCUT with 1 and 4.
7. Adjust with 3 and 6 for the best white balance.
8. Set the PICTURE and BRIGHT to maximum.
9. Select GDRV and BDRV with 1 and 4.
10. Adjust with 3 and 6 for the best white balance.
11. Reset DCOL to "1".
12. Write into the memory by pressing MUTING then ENTER **.

SECTION 4
SAFETY RELATED ADJUSTMENTS

⋈ R530, R531 CONFIRMATION METHOD (HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

Always perform the following adjustments when replacing the following components marked with a ◪ mark on the schematic diagram:

A BOARD:	IC351, IC501, D519, D520, D521, C531, C532, R387, R529, R530, R531, R532, R533, R550, T503
G BOARD:	IC643, R661

Step 1 Preparation before Confirmation

Turn the POWER switch ON.

Input a white signal and set the PICTURE and BRIGHT controls to maximum.

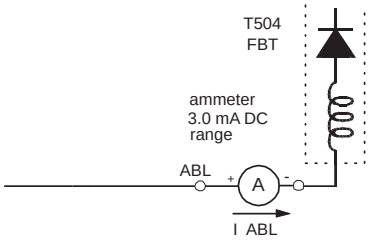
Confirm that, when the set is operating normally, the voltage at the check terminal of TP85 is more than:
21.5 V DC (KV-32V68)
18.0 V DC (KV35V68)

At AC input: 120.0 ± 2.0 VAC

Step 2

Input a white signal and verify that I ABL is within the specified range: 2000 ± 100 µA (KV-32V68),
2160 ± 100 µA (KV-35V68).
+B = 135.0 ± 1.5 VDC .

At AC input: 120.0 ± 2.0 VAC



Step 3

Record the voltage between TP85 and ground.

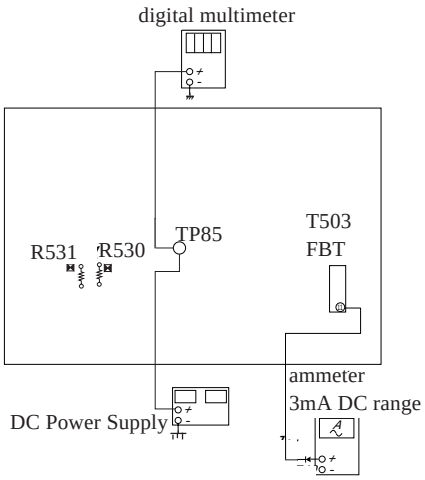
Step 4

Using an external DC power supply, apply voltage between TP85 and ground.

Increase the voltage gradually and confirm that the holdown works (raster disappears) at lower than the voltage recorded in Step 3.

Lower than 26.95 ± (-0.05) V DC (KV-32V68),
22.05 ± (-0.05) V DC (KV-35V68).

At AC input: 120.0 ± 2.0 VAC



A BOARD - CONDUCTOR SIDE

Step 5

Confirm that a voltage appears betwen TP85 and ground, of more than:
21.5 V DC (KV-32V68)
18.0 V DC (KV-35V68)

At AC input: 120.0 ± 2.0 VAC

B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

Always perform the following adjustments when replacing the following components marked with ◪ on the schematic diagram:

G BOARD: IC643, R661

1) Using Variac, apply AC input voltage: 120.0 ± 2.0 VAC
2) Input a monoscope signal.
3) Set the PICTURE control and the BRIGHT control to initial reset value.
4) Confirm the voltage of G Board CN641 between pin ① to ground on "G" PWB is less than 130.0 ± 1.0 V DC.
5) If step 4 is not satisfied, replace the R661 and repeat the above steps.

SECTION 5
CIRCUIT ADJUSTMENTS

ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use Remote Commander (RM-Y154) to perform the following circuit adjustments:

NOTE : Test Equipment Required:

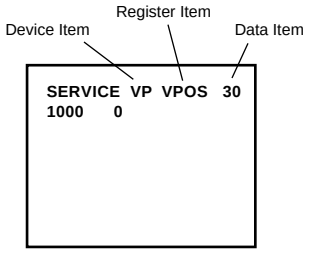
1. Pattern Generator
2. Frequency Counter
3. Digital Multimeter
4. Audio OSC

(1) Method of Setting the Service Adjustment Mode

SERVICE MODE PROCEDURE

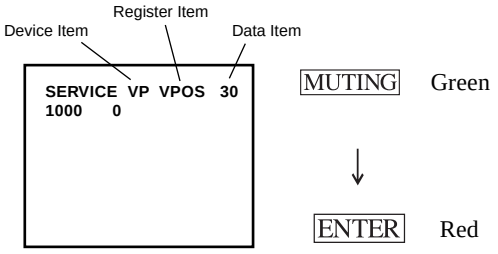
1. Standby mode. (Power off)
2. DISPLAY → 5 → VOL (+) → POWER on the Remote Commander.
   (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN

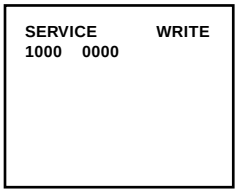


3. The CRT displays the item being adjusted.
4. Press 2 or 5 on the Remote Commander to select the device item.
5. Press 1 or 4 on the Remote Commander to select the item.
6. Press 3 or 6 on the Remote Commander to change the data.
7. If you want to recover the latest values press 0 then ENTER to read the memory.
8. Press MUTING then ENTER to write into memory**.

SERVICE ADJUSTMENT MODE MEMORY



9. Press 8 then ENTER on the Remote Commander to reset.



Carry out step 9) when adjusting IDs 0 to 4 and when replacing and adjusting IC102.

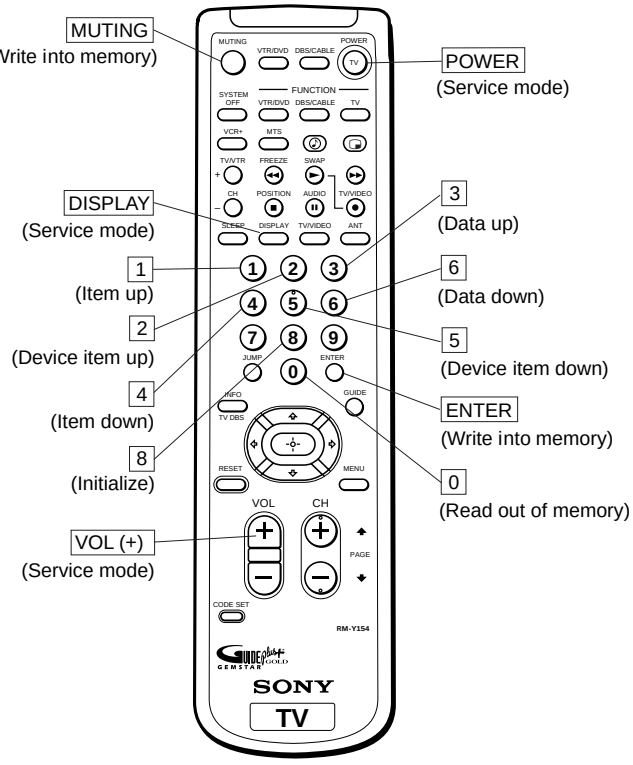
Factory original setting

10. Turn set off and on to exit.

(2) Memory Write Confirmation Method

1. After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
2. Turn the power switch ON and set to Service Mode.
3. Call the adjusted items again to confirm they were adjusted.

(3) Adjust Buttons and Indicator



RM-Y154

**WARNING: Do NOT turn off the power or AC immediately after pressing MUTING then ENTER. Wait at least 10 seconds.

(4) Service Data

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data** 32" A	Average Data** 35" B	Comments
		VP CXA2095S						
1	VPOS	V-Position	0-63	*Adj*	**20**	23	33	0:Down, 63:Up
2	VSIZ	V-Size	0-63	*Adj*	**20**	27	52	0:Min, 63:Max
3	VCOM	V-Compensation	0-3	**Fix**	**1**	1		0:Min, 3:Max
4	VLIN	V-Linearity	0-15	*Adj*	**7**	9		0:Min, 15:Max
5	VSCO	S-Correction	0-15	*Adj*	**7**	6	9	0:Min, 15:Max
6	HPOS	H-Position	0-15	*Adj*	**7**	11	10	0:Right, 15:Left
7	HSIZ	H-Size	0-63	*Adj*	**20**	23	39	0:Min, 63:Max
8	PAMP	Pin Compensation	0-63	*Adj*	**31**	27	19	0:Min, 63:Max
9	UPIN	Upper Corner Pin	0-15	*Adj*	**7**	4	7	0:Min, 15:Max
10	LPIN	Lower Corner Pin	0-15	*Adj*	**7**	6	10	0:Min, 15:Max
11	PPHA	Pin Phase	0-15	*Adj*	**7**	4	5	0:Min(small picture), 15:Max
12	AFC	AFC	0-3	**Fix**	**2**	2		0:Freerun, 1:Min, 3:Max
13	VBOW	AFC Bow	0-15	*Adj*	**7**	6	5	0:Right, 15:Left
14	VANG	AFC Angle	0-15	*Adj*	**7**	6	4	0:Right, 15:Left
15	REF	Reference Line	0-3	**Fix**	**2**	2		0:22H(Rch), 3:16H(Rch)
16	GDRV	Green Drive	0-63	*Adj*	**31**	22	35	0:Min, 63:Max
17	BDRV	Blue Drive	0-63	*Adj*	**31**	30	26	0:Min, 63:Max
18	GCUT	Green Cutoff	0-15	*Adj*	**7**	5	8	0:Min, 15:Max
19	BCUT	Blue Cutoff	0-15	*Adj*	**7**	7	6	0:Min, 15:Max
20	SCON	Sub Contrast	0-15	*Adj*	**7**	10	8	0:Min, 15:Max
21	SHUE	Sub Hue (RF only)	0-15	*Adj*	**7**	7 (flat-1)		0:+10deg, 15:-10deg (adjust flat - 1 step)
22	1SHU	Sub Hue (composite & S-video)	0-15	*Adj*	**7**	7		0:+10deg, 15:-10deg (same as SHUE adj. value)
23	SCOL	Sub Color (RF only)	0-15	*Adj*	**7**	11 (flat+2)		0:Min, 15:Max (adjust flat + 2 steps)
24	1SCO	Sub Color (composite & S-video)	0-15	*Adj*	**7**	9		0:Min, 15:Max
25	SBRT	Sub Brightness	0-63	*Adj*	**31**	26		0:Min, 63:Max
26	SSHP	Sub Sharpness (RF & Composite video)	0-15	**Fix by model**	**7**	10		0:Min, 15:Max
27	1SSP	Sub Sharpness (S-video only)	0-15	**Fix by model**	**7**	10		0:Min, 15:Max
28	GMMA	Gamma Correction	0-3	**Fix by model**	**1**	0		0:Off, 1:Min, 3:Max
29	CDM2	Countdown Mode 2	0-1	**Fix**	**0**	0		0: Normal 1: High Speed Countdown Response
30	EYSW	External Y Switch	0-1	**Fix**	**0**	0		0: Normal 1: EYin disabled
31	DPIX	Dynamic Picture	0,1	**Fix**	**1**	1		0:Off, 1:On
32	Y-DC	DC Transmission Ratio	0,1	**Fix**	**1**	1		0:100%, 1:82%
33	ABLM	ABL Mode	0,1	**Fix**	**1**	1		0:PictureABL, 1:Picture/BrightnessABL
34	AXIS	Color Demodulation Axis	0,1	**Fix**	**1**	0		0:Japan, 1:US
35	NOTC	Chroma Trap Filter	0,1	**Fix**	**0**	0		0:Off, 1:On
36	CROM	Chroma Trap Adjust	0-15	**Fix**	**7**	7		0:+300kHz, 1:-300kHz
37	TOT	TOT Filter (RF only)	0,1	**Fix**	**1**	1		0:Off, 1:On
38	1TOT	TOT Filter (Composite & S-video)	0,1	**Fix**	**1**	0		0:Off, 1:On
39	PREL	Pre/Overshoot Ratio (RF & Composite)	0-3	**Fix by model**	**3**	1		0: 2:1, 3: 5:1
40	1PRE	Pre/Overshoot Ratio (S-video only)	0-3	**Fix by model**	**3**	3		0: 2:1, 3: 5:1
41	SHPF	Sharpness fo (RF & Composite)	0-3	**Fix by model**	**2**	1		0:2.5MHz, 3:4.0MHz
42	1SPF	Sharpness fo (S-video only)	0-3	**Fix by model**	**2**	3		0:2.5MHz, 3:4.0MHz
43	RON	Red Off	0,1	**Fix**	**1**	1		0:Off, 1:On
44	GON	Green Off	0,1	**Fix**	**1**	1		0:Off, 1:On
45	BON	Blue Off	0,1	**Fix**	**1**	1		0:Off, 1:On
46	DCOL	Dynamic Color	0,1	**Fix**	**0**	1		0:Off, 1:On
47	CDMD	V Countdown Mode	0,1	**Fix**	**0**	0		0:Auto, 1:Fix
48	HBSW	H Blanking Switch	0,1	**Fix**	**0**	0		0:Off, 1:On
49	LBLK	Left Blanking	0-15	**Fix**	**0**	7		0:Min, 15:Max
50	RBLK	Right Blanking	0-15	**Fix**	**0**	7		0:Min, 15:Max
		AP CXA2021						
51	SVOL	Sub Volume	0-15	**Fix**	**0**	6		0:-0 Volume steps, 15:-15 Volume steps
52	SBAL	Sub Balance	0-15	*Adj*	**7**	7		0: +Right, 15:+Left
53	SBAS	Sub Bass	0-15	**Fix by model**	**7**	10		0:-7 Steps, 15: +8 steps
54	STRE	Sub Treble	0-15	**Fix by model**	**7**	7		0:-7 Steps, 15: +8 steps
		AP MM1313						
55	AUSW	Audio Att Sw	0,1	**Fix**	**1**	1		0:-6dB, 1:0dB (Only for VIDEO input)

****AVERAGE DATA MODEL GROUPINGS:**

32" A: KV-32V68 **35" B: KV-35V68**	

Service Data (cont.)

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data**		Comments
						32"	35"	
						A	B	
		PI SDA9288						
56	PYSD	Select Delay	0-15	Fix by P-bd	3	3		0:Right, 15:Left
57	PIPH	PIP H-position	0-127	Fix	78	78		0:Right, 127:Left
58	PIPV	PIP V-position	0-63	Fix	18	18		0:Up, 63:Down
59	PYDL	PIP Y-delay	0-7	Fix	0	0		0:Right, 7:Left
60	PHDL	H-pulse delay	0-15	Fix by P-bd	3	0		0:Right, 15:Left
61	PMVD	Main V-pulse delay	0-31	Fix	16	16		7-21: Available (1-6/22-31 Not Avail)
62	PIVD	Inset V-pulse delay	0-31	Fix	22	22		16-28 Available (1-15/29-31 Not Avail)
63	PCON	Inset Contrast	0-15	Fix	7	6		0:Min, 15:Max
64	FRMY	Frame Y	0-15	Fix	7	7		0:Dark, 15:Bright
65	CHRI	Input Polarity	0,1	Fix by P-bd	1	1		0:+(B-Y)+(R-Y), 1:-(B-Y)-(R-Y)
66	CHRO	Output Polarity	0,1	Fix	1	1		0:+(B-Y)+(R-Y), 1:-(B-Y)-(R-Y)
67	IPER	Inset Pedestal R-Y	0-15	Fix	0	0		0:Center, 7:Max, 8:Min
68	IPEB	Inset Pedestal B-Y	0-15	Fix	0	0		0:Center, 7:Max, 8:Min
69	PCPS	CLPS Bit Control	0,1	Fix	0	0		0:Depend on HSIDEL, 1:Not depend
70	PCPF	CLPFIX Bit Control	0,1	Fix	0	0		0: 3Clamp line, 1: 2Clamp line
71	PSEL	SELDOWN Bit Control	0,1	Fix by P-bd	1	1		0:Open out, 1:TTL out
72	PPLL	PLL Filter Bits	0-3	Fix	0	0		Fixed value only
73	PVNR	VSPISQ VSP NR	0-1	Fix	0	1		SDA9288 IC bypass use 1
		IC CXA2019						
74	ISCO	CDec Sub Contrast	0-15	Fix	7	15		PiP sub contrast
75	ISHP	CDec Sharpness	0-15	Fix	7	8		PiP sharpness
76	ISCL	CDec Sub Color	0-15	Fix	7	9		PiP sub color
77	ISHU	CDec Sub Hue	0-15	Fix	7	6		PiP sub hue
78	ITOT	CDec TOT on	0,1	Fix	0	1		PiP TOT 0:Off, 1:On
79	IAFC	CDec AFC	0-3	Fix	2	2		0:Max, 2:Min, 3:Freerun
80	ICD2	CDec Countdown Mode2	0,1	Fix	0	0		0:Standard, 1:Fast
81	IYDR	CDec Y drive	0-31	Fix	15	7		PiP Y-drive gain
82	IVPE	CDec V pedestal	0-15	Fix	7	6		PiP V-ped DC
83	IUPE	CDec U pedestal	0-15	Fix	7	6		PiP U-ped DC
84	IRVP	CDec RV pedestal	0-15	Fix	7	6		PiP V-ped DC (re-input)
85	IRUP	CDec RU pedestal	0-15	Fix	7	6		PiP U-ped DC (re-input)
86	IDCT	CDec DC transfer	0-7	Fix	2	0		PiP DC transfer 0:Max, 7:Min
87	IRYD	CDec RY drive	0-31	Fix	15	20		PiP RY Drive (re-input)
88	IABO	CDec ABL off	0,1	Fix	1	1		PiP ABL (RY-OUT) 0:On, 1:Off
89	IPRE	CDec Pre/Over shoot	0-3	Fix	3	3		PiP Pre/over shoot 0: 1:1, 1: 4:1
90	IRUD	CDec RU Drive	0-31	Fix	15	20		PiP RU-gain out 0:-6dB, 31:+3.3bD
91	IABL	CDec ABL	0,1	Fix	1	1		PiP ABL gain 0:Std, 1:Min
92	IABC	CDec ABL Cent	0-3	Fix	1	1		PiP ABL Center 0:Min, 1:Max
93	IRVD	CDec RV drive	0-31	Fix	15	17		PiP RY Drive (re-input)
94	IDLY	CDec Delay	0-3	Fix	0	0		PiP Y-delay 0:0ns, 1:60ns, 2:120ns, 3:180ns
95	ISCR	CDec SCP BGR	0-3	Fix	0	0		PiP SCP riseup phase 0:+0.4us, 1:cent, 2:-0.8us
96	ISCF	CDec SCP BGF	0-3	Fix	0	0		PiP SCP falldown phase 0:+0.4us, 1:cent, 2:-0.8us
		CC CXP8584a-011s						
97	CRIL	CC CRI count low	0-15	Fix	2	2		7 Clock Run-In Lower Limit (field 1)
98	CFLD	CC Caption Fixed Field Count	0-15	Fix	5	5		Fixed value only
99	CCDI	CC CCD int	0-7	Fix	3	3		Fixed value only
100	CRIP	CC CRI & polarity	0-7	Fix	4	4		Fixed value only
101	CRIT	CC CRI time constant	0-3	Fix	1	1		Fixed value only
102	CSB1	CC Sync Slice Bias 1	0-3	Fix	3	3		Fixed value only
103	CSB2	CC Synce Slice Bias 2	0-7	Fix	4	4		Fixed value only
104	CREP	CC CRI signal end position	0-255	Fix	142	142		Fixed value only
105	CDSD	CC Data start delay	0-31	Fix	8	8		Fixed value only
106	CCDS	CC Caption data threshold	0-31	Fix	9	9		Fixed value only
107	CHMK	CC P8_HMASK	0-63	Fix	42	42		Hmask
108	CHSY	CC P8_HSYC	0-255	Fix	136	136		Hsyc

****AVERAGE DATA MODEL GROUPINGS:**

32" A: KV-32V68 **35" B: KV-35V68**	

Service Data (cont.)

No.	Register Name	Description	Data Range	Adj/Fix	Initial Data	Average Data** 32" A	Average Data** 35" B	Comments
		OP CXP85848A						
109	DISP	TV OSD H Position	0-63	*Adj*	1	23		0:Off, 1:Left, 63: Right
110	RTCO	Rotation Coil	0-63	Fix	32	32		Fixed value only
111	GPHP	Gemstar PiP H Position	0-127	*Adj*	78	75		Gemstar Micro only (-012)
112	GPVP	Gemstar PiP V Position	0-63	*Adj*	13	13		Gemstar Micro only (-012)
113	GHPO	Gemstar OSD H Position	0-31	*Adj*	18	17		Gemstar Micro only (-012)
114	GVPO	Gemstar OSD V Position	0-32	*Adj*	12	12		Gemstar Micro only (-012)
115	GHSZ	Gemstar OSD H Size	16-143	*Adj*	102	101		Gemstar Micro only (-012)
116	GVSZ	Gemstar OSD V Size	175-255	*Adj*	202	175		Gemstar Micro only (-012)
		ID MAP						
117	ID-0	ID-0 (Language/Color Systems)	0-255	Fix by model	89	refer to NVM ID Chart		See ID map
118	ID-1	ID-1 (Input/Output Conifguration)	0-255	Fix by model	55			See ID map
119	ID-2	ID-2 (Audio)	0-255	Fix by model	175			See ID map
120	ID-3	ID-3 (OSD/Timer/V-chip/Ch Fix)	0-255	Fix by model	0			See ID map
121	ID-4	ID-4 (CC/Spot Killer/etc)	0-255	Fix by model	155			See ID map
122	ID-5	ID-5 (V-series Features/etc)	0-255	Fix by model	141			See ID map
123	ID-6	ID-6 (PiP/Ant Sw related)	0-255	Fix by model	6			See ID map
124	ID-7	ID-7 (Special Models/etc)	0-255	Fix by model	0			See ID map

****AVERAGE DATA MODEL GROUPINGS:**

32" A: KV-32V68 **35" B: KV-35V68**	

SERVICE IDO 25

Note: Items 1-124 show adjustment order

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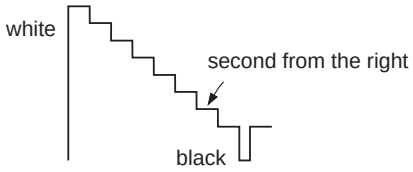
(5) Feature ID Map

	ID 0	ID 1	ID 2	ID 3	ID 4	ID 5	ID 6	ID 7
KV-32V68	89	55	175	10	27	141	6	0
KV-35V68	89	55	175	10	155	141	6	0

SUB BRIGHT ADJUSTMENT (SBRT)

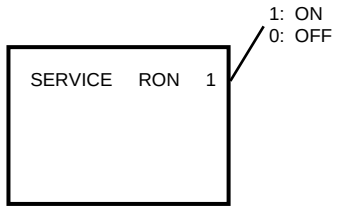
1. Set to Service adjustment Mode.
2. Input a gray scale pattern signal.
3. Set the PICTURE to minimum, and BRIGHT to normal.
4. Select SBRT with [1] and [4].
5. Adjust SUB BRIGHT level with [3] and [6] so that the stripe second from the right is faintly visible.
6. Write into the memory by pressing [MUTING] then [ENTER]**.



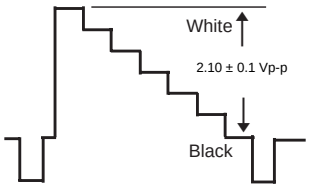
SUB CONTRAST ADJUSTMENT (SCON)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Select the item DCOL to "0" level.
4. Set the conditions as follows.

PICTURE	. . . . .	MAX
COLOR	. . . . .	MIN
BRIGHT	. . . . .	CENTER
R ON	. . . . .	ON (1)
G ON	. . . . .	OFF (0)
B ON	. . . . .	OFF (0)



5. Connect an oscilloscope probe to C Board, CN1761 pin ① (RED OUT).
6. Select SCON with [1] and [4].
7. Adjust with [3] and [6] for: 2.10 ± 0.01 Vp-p.

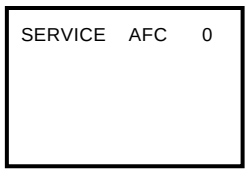


8. Reset the item DCOL to "1" level.
9. Write into memory by pressing [MUTING] then [ENTER]** .
10. Return the following back to normal after adjustment.

PICTURE	. . . . .	MAX
COLOR	. . . . .	CENTER
BRIGHT	. . . . .	CENTER
R ON	. . . . .	ON (1)
G ON	. . . . .	ON (1)
B ON	. . . . .	ON (1)

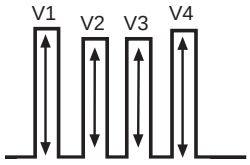
DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Select DISP with [1] and [4] .
4. Adjust with [3] and [6] for adjustment of characters to center .
5. Write into memory by pressing [MUTING] then [ENTER]**.



SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Connect oscilloscope probe to C Board, CN1761 Pin ③ (BLUE OUT).
4. Select SHUE and SCOL with [1] and [4].
5. Adjust with [3] and [6] for the V1 = V4 ± 0.1Vp-p (SCOL) and V2 = V3 ± 0.1Vp-p (SHUE).



6. Change data according to the following table:

	SCOL	SHUE
32"/35"	+2 steps	-1 steps

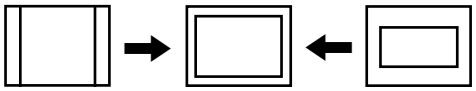
7. Write into the memory by pressing [MUTING] then [ENTER] **.

**WARNING: Do NOT turn off the power or AC immediately after pressing [MUTING] then [ENTER]. Wait at least 10 seconds.

V. SIZE ADJUSTMENT (VSIZ)

1. Input a cross-hatch signal.
2. Set to Service adjustment mode.
3. Select VSIZ with 1 and 4.
4. Adjust with 3 and 6 for the best vertical size.
5. Write into the memory by pressing MUTING then ENTER**.

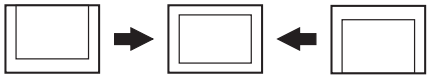
V. SIZE



V. POSITION ADJUSTMENT (VPOS)

1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VPOS with 1 and 4.
4. Adjust with 3 and 6 for the best vertical center.
5. Write into the memory by pressing MUTING then ENTER**.

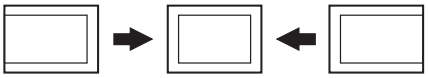
V. POSITION



H. POSITION ADJUSTMENT (HPOS)

1. Input a cross-hatch signal.
2. Set the Service adjustment Mode.
3. Select HPOS with 1 and 4.
4. Adjust with 3 and 6 for the best horizontal center.
5. Write into the memory by pressing MUTING then ENTER**.

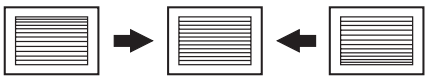
H. POSITION



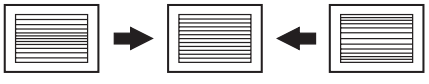
V LINEARITY (VLIN), V CORRECTION (VSCO), PIN AMP (PAMP) AND PIN PHASE (PPHA) ADJUSTMENTS

1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Select VLIN, VSCO, PAMP, and PPHA with 1 and 4.
4. Adjust with 3 and 6 for the best picture.
5. Write the memory by Pressing MUTING then ENTER** .

V LINEARITY(VLIN)

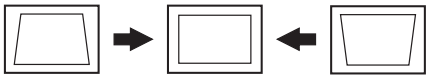


VS CORRECTION (VSCO)



PIN AMP (PAMP)

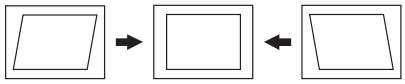
PIN PHASE (PPHA)



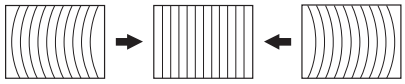
V ANGLE (VANG), V BOW (VBOW), UPPER PIN (UPIN) AND LOW PIN (LPIN) ADJUSTMENTS

1. Input a cross hatch signal.
2. Set to Service adjustment Mode.
3. Select VVANG, VBOW, UPIN, and LPIN with 1 and 4.
4. Adjust with 3 and 6 for the best picture.
5. Write into memory by Pressing MUTING then ENTER** .

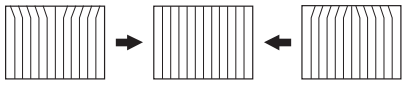
V ANGLE (VANG)



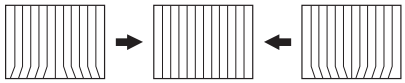
V BOW (VBOW)



UPPER PIN (UPIN)



LOW PIN (LPIN)



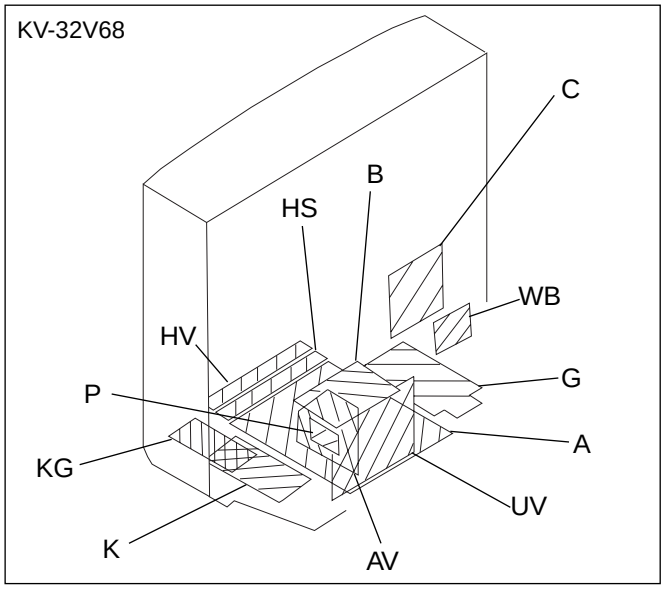
P BOARD ADJUSTMENTS

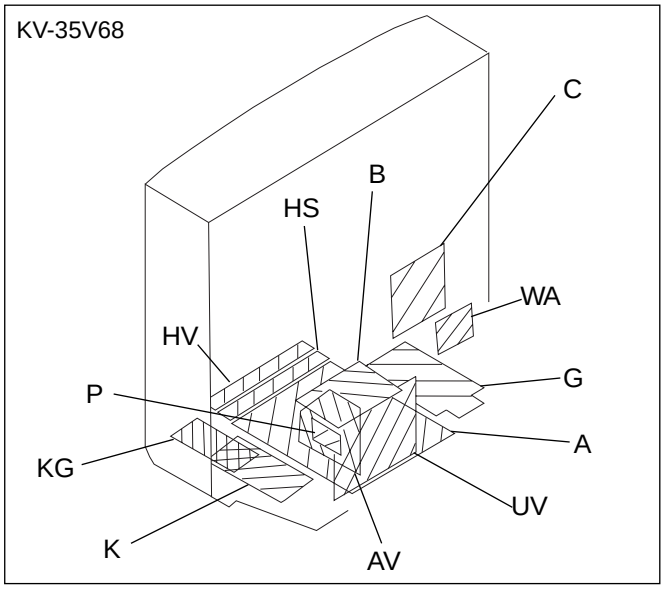
PIP V, POSITION (PIPV), PIP H. POSITION (PIPH)

1. Input a color-bar signal.
2. Set to service adjustment mode.
3. Select PIPV or PIPH with 1 and 4 .
4. Adjust with 3 and 6 for the best balanced positon at four corner P in P display position.
5. Adjust P in P put at lower right position.
6. Write the memory by Pressing MUTING then ENTER** .

**WARNING: Do NOT turn off the power or AC immediately after pressing MUTING then ENTER. Wait at least 10 seconds.

6-3. CIRCUIT BOARDS LOCATION





6-4. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

- All capacitors are in µF unless otherwise noted. pF : µµF 50WV or less are not indicated except for electrolytics and tantalums.
- All electrolytics are in 50V unless otherwise specified.
- All resistors are in ohms.
  K =1000 , M =1000k
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch : 5mm
  Rating electrical power : 1/4 W

- 1/4 W in resistance, 1/10 W and 1/8 W in chip resistance.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by ⋈ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ , make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⋈ and repeat the adjustment until the specified value is achieved. (Refer to R530 and R531 adjustment on Page 20.)
- When replacing the part in below table, be sure to perform the related adjustment.
- Readings are taken with a color-bar signal input.
- Readings are taken with a 10M digital multimeter .
- Voltages are DC with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.

Part replaced(◪)	Adjustment(⋈)
IC351,IC501,D519,D520,D521 C531,C532,R387,R529,R530,R531, R532,R533,R550,T503.....A BOARD IC643,R661.....G BOARD	R530,R531

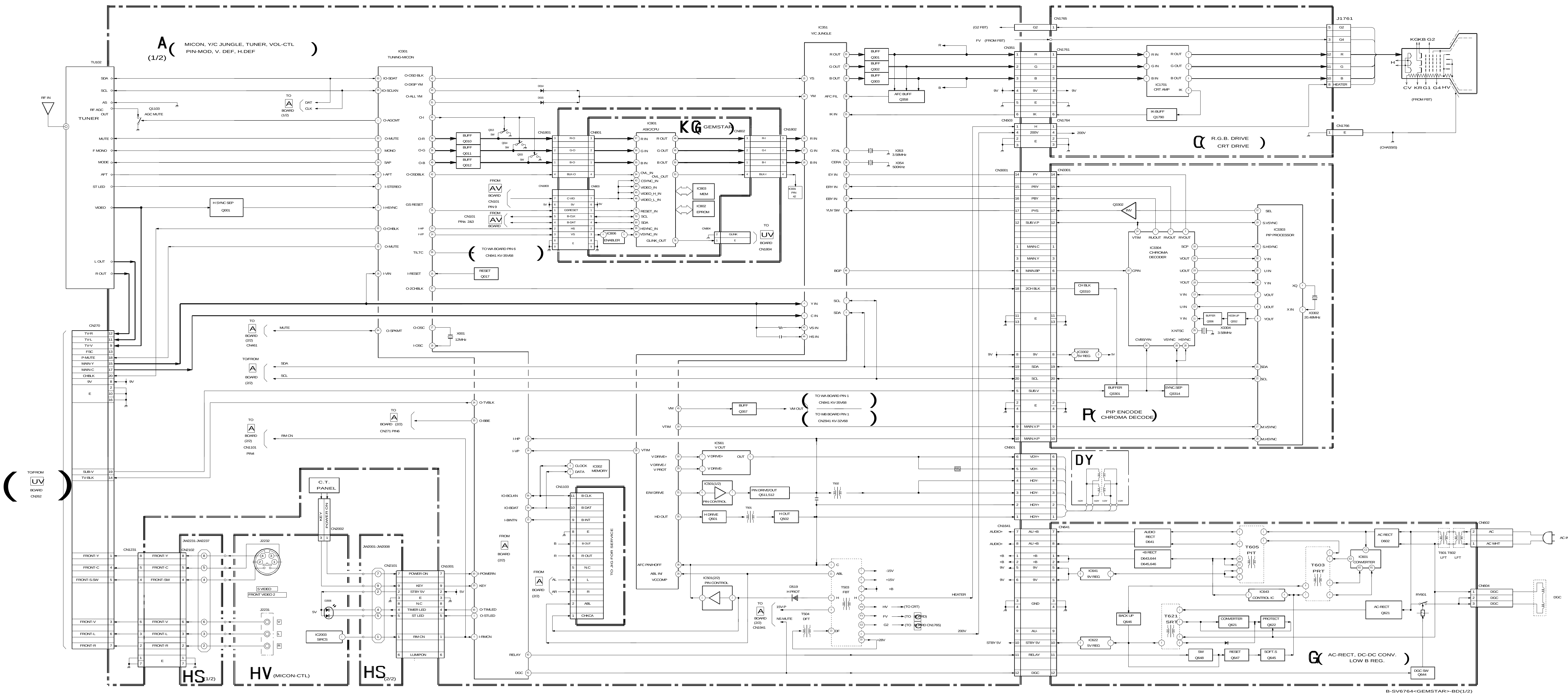
- All voltages are in V.
  S : Measurement impossibility.
- : B+line.
- V : B-line.
  (Actual measured value may be different).
- : signal path. (RF)
- Circled numbers are waveform references.

Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: ※	ADJUSTMENT RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

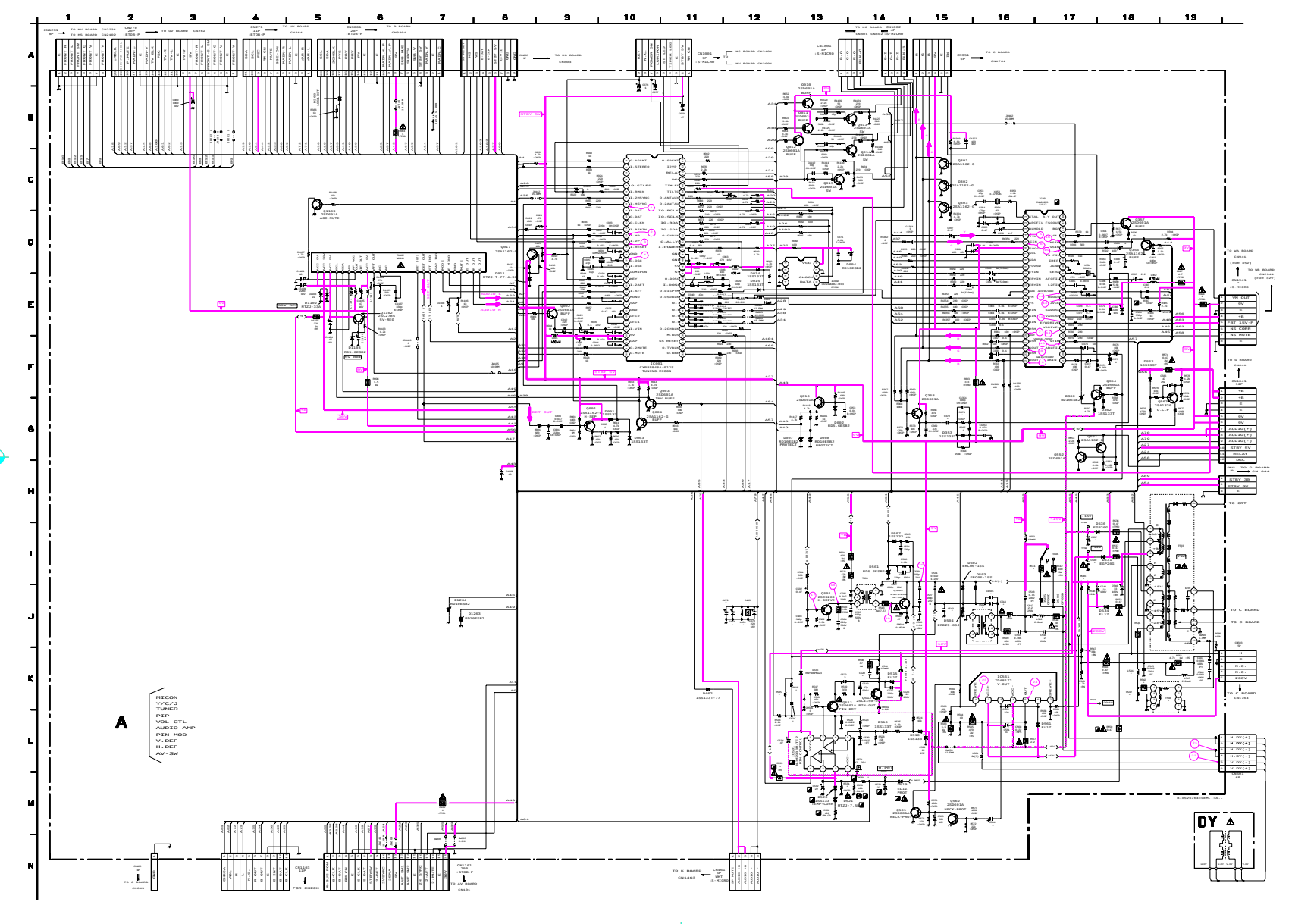
The symbol display is on the component side.
The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.
The symbol indicates a fast operating fuse.
Replace only with fuse of same rating as marked.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.
Le symbole indique une fusible a action rapide. Doit etre remplacee par une fusible de meme yaleur, comme maque.

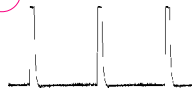
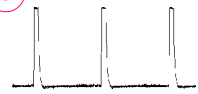
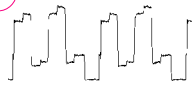
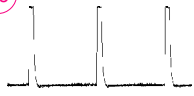
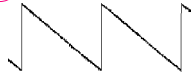
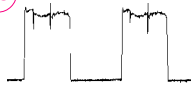
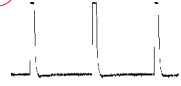
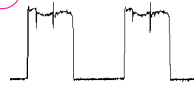
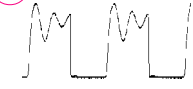
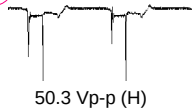
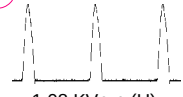
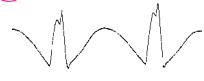
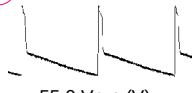
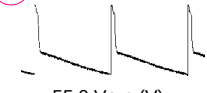

A (1/2) (MICON, Y/C JUNGLE, TUNER, VOL-CTL PIN-MOD, V. DEF, H.DEF)
TU102 TUNER
IC001 TUNING-MICON
IC351 Y/C JUNGLE
IC801 ASIC/CPU
KG (GEMSTAR)
IC803 MEM
IC802 EPROM
IC806 ENABLER
H SYNC SEP Q001
RESET Q017
BUFF Q010
BUFF Q011
BUFF Q012
BUFF Q301
BUFF Q302
BUFF Q303
AFC BUFF Q358
BUFF Q357
IC561 V OUT
IC501(1/2) PIN CONTROL
IC501(2/2) PIN CONTROL
PIN DRIVE/OUT Q511,512
H DRIVE Q501
H OUT Q502
D519 H PROT
T503 FBT
T504 DFT
IC002 MEMORY
CN1103
TO JIG FOR SERVICE
C (R.G.B. DRIVE CRT DRIVE)
IC1701 CRT AMP
IK-BUFF Q1790
J1761
(FROM FBT)
(CHASSIS)
P (PIP ENCODE CHROMA DECODE)
IC3303 PIP PROCESSOR
IC3304 CHROMA DECODER
Q3302 INV
CH BLK Q3310
IC3302 5V REG
BUFFER Q3301
SYNC.SEP Q3314
X3302 20.48MHz
X3304 3.58MHz
DY
G (AC-RECT, DC-DC CONV. LOW B REG.)
AUDIO RECT D641
+B RECT D643,644 D645,646
IC641 9V REG
IC622 5V REG
T605 PIT
T603 PRT
T621 SRT
IC601 CONVERTER
AC RECT D602
AC-RECT Q621
IC643 CONTROL IC
BACK UP Q646
CONVERTER Q621
PROTECT Q622
SW Q648
RESET Q647
SOFT.S Q645
DGC SW Q644
RY601
T601 T602 LFT LFT
AC IN
DGC
CN270
TO/FROM UV BOARD CN262
HS (1/2)
HV (MICON-CTL)
HS (2/2)
C.T. PANEL
J2232 S VIDEO FRONT VIDEO 2
J2231
IC2003 SIRCS
D2006
CN1001
CN2101
CN2102
CN1231

B-SV6764<GEMSTAR>-BD(1/2)

VIDEO IN
S VIDEO
VIDEO3 IN
TV OUT
VAR OUT
MON OUT
TO/FROM A BOARD (1/2) CN270
IC261 A/V SW
VIDEO 1
VIDEO 2
VIDEO 3
TUNER
CIN
YIN
VOUT1
SUBV
SUBL
SUBR
BUFFER Q261
CN261
CN3561
IC3503 5V REG
IC3502 COMP.FILTER
BUFFER Q3505,3506,3516
BUFFER Q3510,3509,3555
BUFFER Q3501,3502
FL3502
FL3503
FL3501
BUFFER Q3504
BUFFER Q3507
BUFFER Q3503
ACO
AYO
ADIN
IC3501 FSC OUT
4FSC OUT
COMP IN
FIN
B (DIGITAL COMB.FILTER)
CN3502
CN102
2-DET
2-L
2-R
M-IN1
M-IN2
M-OUT
DET OUT
DE-EM OUT
TU101 SUB TUNER
H SYNC SEP Q105
MUTE
AFT OUT
SDA
SCL
IC1902 SIRCS I/O
V1
V3
TV OUT STATUS
V1-S
V3-S
SIRCS
SW Q1901,1902
IC1901 DAC
M-IN2
M-IN1
M-OUT
SCL
SDA
5V REG. Q101
CN101
CN1101
2-MUTE
2-AFT
2ENA
2H.SYNC
B-DAT
B-CLK
2-DET
M-BUS-POW
E
SIRCS
STBY 5V
9V
30V
S SCL
S SDA
ANT SW1
ANT SW2
TO KG BOARD CN803
IC001(2/2) SYSTEM CONTROL
O-2MUTE
I-2AFT
I-2HSYNC
M-BUS
I-RMCN
TO/FROM A BOARD (1/2)
O-ANTAUX
O-2ANTAUX
CN103
TO ANT SW
ANT SW1 Q103
ANT SW2 Q104
AV 2ND-TUNER S-LINK
J902
SIRCS IN S-LINK OUT
J904
SIRCS OUT S-LINK IN2
J903
SIRCS OUT S-LINK OUT IR BLASTER OUT
J901
GEMSTAR LINK
CN1804
GLINK
E
FROM KG BOARD CN804
IC103 SRS/AUDIO
IC102 AUDIO PROCESSOR
IC100 AUDIO PROCESSOR
L-IN
R-IN
LOUT
ROUT
SCL
SDA
BBE
LOUT1
ROUT1
SCLK
SDATA
IC101 AUDIO AMP (VAR/FIX)
MUTE Q233-Q234
MUTE Q232,235,236
MUTE DRIVE Q243
MUTE Q231
CN264
CN271
BBE-ON
SCL
SDA
E
VAR-L
VAR-R
O-BBE (FROM IC001 PIN 33)
FROM A BOARD (1/2)
CN265
9V
E
L
R
CN1461
SWITCH Q1465
A (2/2) (SYSTEM CONTROL)
CN1941
CN2941
VM
E
FBT 15V-P
9V
+B
VM AMP Q2943-2945
VM OUT Q2965,2966
VM DRIVE Q2946,2947
FOR KV-32V68 ONLY
WB VELOCITY MOD. ROTATION, Q. P.
NECK ASSY
CN961
VM OUT
VM AMP Q943,944,945
VM OUT Q965,966
VM DRIVE Q946,947
HP BUFFER Q963
IC961
DQP DRIVE
DQP OUT Q962
FOR KV-35V68 ONLY
WA VELOCITY MOD. ROTATION, Q. P.
N/S CORR
N/S MUTE Q981
IC981 N/S DRIVE
CN981
N/S COIL+
N/S COIL-
N.C.
N/S COIL
CN461
CN1463
AUDIO +B
AUDIO -B
SP MUTE
MUTE Q1461,1462
OFF MUTE Q1464
OFF MUTE Q1463
CN1462
L
R
SP (L)
SP (R)
K AUDIO AMP
UV (SRS, AV-SW, AV-TERMINAL)


A
MICON
Y/C/J
TUNER
PIP
VOL-CTL
AUDIO-AMP
PIN-MOD
V.DEF
H.DEF
AV-SW
DY

A BOARD WAVEFORMS

1  5.0 Vp-p (H)	2 5.3 Vp-p (H)	3  4.6 Vp-p (H)
4 4.3 Vp-p (8MHz)	5 1.8 Vp-p (H)	6 1.0 Vp-p (H)
7  4.0 Vp-p (H)	8 3.4 Vp-p (H)	9 3.5 Vp-p (H)
10  6.0 Vp-p (H)	11  1.2 Vp-p (V)	12 .8 Vp-p (H)
13  5.7 Vp-p (H)	14  6.5 Vp-p (H)	15 1.8 Vp-p (H)
16 1.8 Vp-p (H)	17  2.7 Vp-p (H)	18  205 Vp-p (H)
19  50.3 Vp-p (H)	20  1.08 KVp-p (H)	21  140 Vp-p (H)
22  55.0 Vp-p (V)	23 1.2 Vp-p (V)	24  55.0 Vp-p (V)

A BOARD IC VOLTAGE LIST

IC001	
pin	volt
1	0
2	5.2
3	NC
4	NC
5	5.2
6	5.1
7	0.08
8	0.07
9	NC
10	NC
11	NC
12	5.2
13	4.2
14	1.2
15	5.2
16	GND
17	2.4
18	2.4
19	0
20	5.2
21	2.1
22	2.4
23	0
24	0
25	GND
26	1.9
27	2.7
28	2.5
29	5.2
30	0
31	0
32	0
33	0
34	0
35	5.2
36	0.1
37	0
38	0
39	0
40	0
41	0
42	0
43	0
44	2.9
45	3.0
46	5.2
47	5.2
48	GND
49	GND
50	5.2
51	0
52	0
53	4.8
54	4.8
55	4.8
56	4.8
57	5.2
58	0
59	0.1
60	3.7
61	0
62	5.0
63	NC
64	5.0

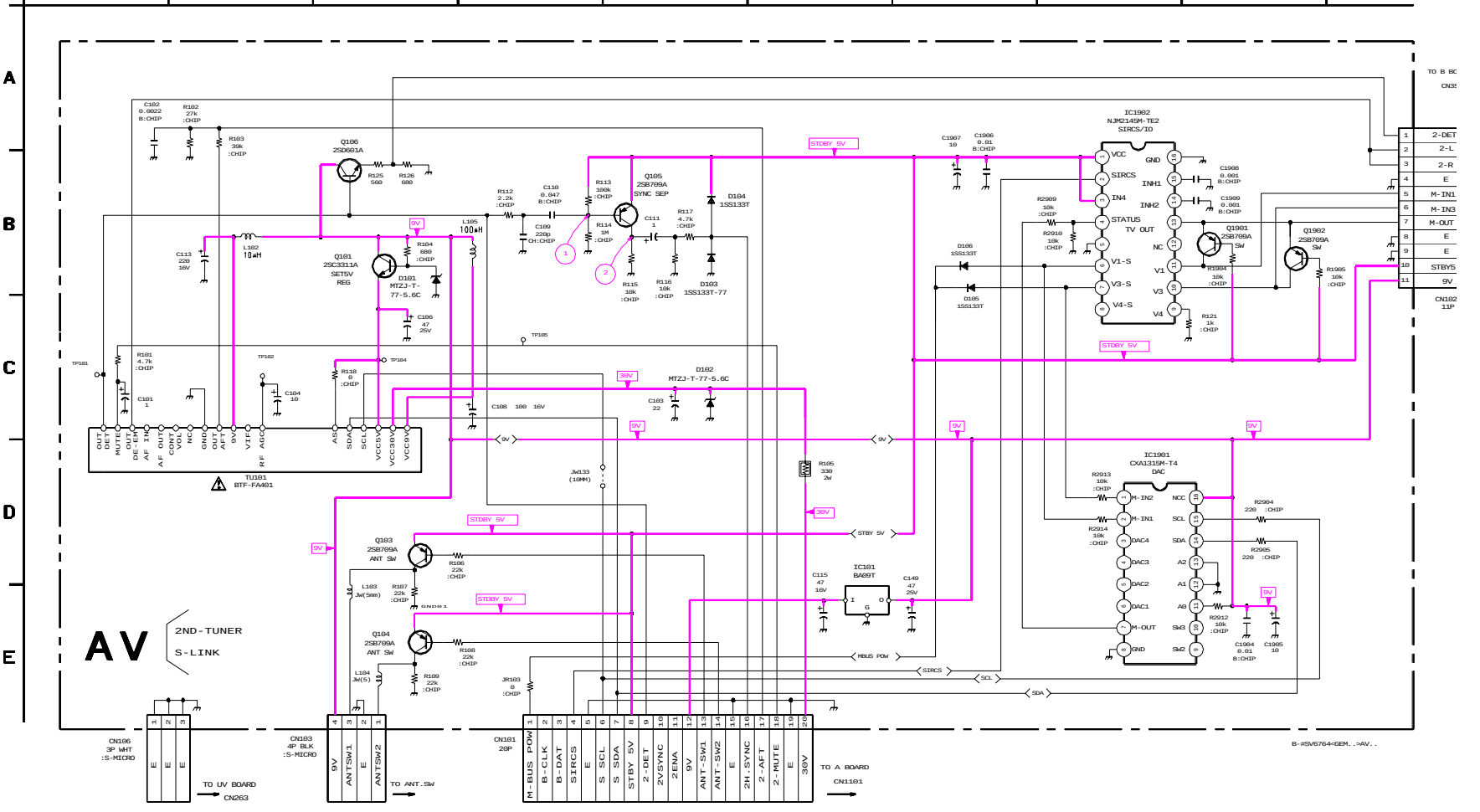
IC002	
pin	volt
1	GND
2	GND
3	GND
4	GND
5	4.8
6	4.9
7	GND
8	5.2

IC351	
pin	volt
1	2.2
2	5.7
3	4.1
4	4.6
5	4.0
6	9.1
7	4.9
8	4.8
9	0.1
10	6.6
11	6.3
12	6.3
13	GND
14	0
15	0
16	5.1
17	5.1
18	5.1
19	4.8
20	1.9
21	5.0
22	1.8
23	5.1
24	1.8
25	3.9
26	2.5
27	8.0
28	0.6
29	3.0
30	3.1
31	3.7
32	4.2
33	4.7
34	9.1
35	3.3
36	3.5
37	4.0
38	4.3
39	2.4
40	0
41	2.7
42	2.7
43	4.2
44	3.4
45	6.3
46	0.3
47	NC
48	NC

IC501	
pin	volt
1	3.5
2	7.7
3	8.2
4	-16.1
5	2.2
6	3.0
7	-15.9
8	13.0

IC561	
pin	volt
1	1.5
2	11.8
3	-14.0
4	-16.2
5	-0.7
6	12.8
7	1.5

All voltages are in V


AV
2ND-TUNER
S-LINK
TU101
BTF-FA401
IC1902
NJM2145M-TE2
SIRCS/IO
IC1901
CXA1315M-T4
DAC
IC101
BA09T
Q101
2SC3311A
SET5V
REG
Q103
2SB709A
ANT SW
Q104
2SB709A
ANT SW
Q105
2SB709A
SYNC SEP
Q106
2SD601A
Q1901
2SB709A
SW
Q1902
2SB709A
SW
D101
MTZJ-T-
77-5.6C
D102
MTZJ-T-77-5.6C
D103
1SS133T-77
D104
1SS133T
D105
1SS133T
D106
1SS133T
L102
10uH
L105
100uH
L103
Jw(5mm)
L104
Jw(S)
JW133
(10MM)
JR103
0
:CHIP
STDBY 5V
9V
30V
5V
STBY 5V
M-BUS POW
SIRCS
SCL
SDA
TO UV BOARD
CN263
TO ANT.SW
TO A BOARD
CN1101
CN166
3P WHT
:S-MICRO
CN163
4P BLK
:S-MICRO
CN161
20P
CN102
11P
TO B BC
CN3
B-#SV6764<GEM..>AV..

AV BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q101	4.8	8.7	4.1
Q103	4.2	4.8	4.9
Q104	5.1	0	4.8
Q105	5.1	0.8	4.8
Q106	4.8	8.7	4.7
Q1901	4.8	0	0
Q1902	5.2	0	0

All voltages are in V

AV BOARD IC VOLTAGE LIST

IC101	
pin	volt
OUT	8.9
GND	GND
IN	11.0

IC1901	
pin	volt
1	0
2	0
3	NC
4	NC
5	NC
6	NC
7	0.3
8	GND
9	NC
10	NC
11	8.9
12	GND
13	GND
14	4.8
15	4.8
16	8.9

IC1902	
pin	volt
1	5.2
2	5.1
3	5.1
4	0.1
5	GND
6	0
7	0
8	NC.
9	0
10	0
11	0
12	NC.
13	0
14	0.3
15	0.3
16	GND

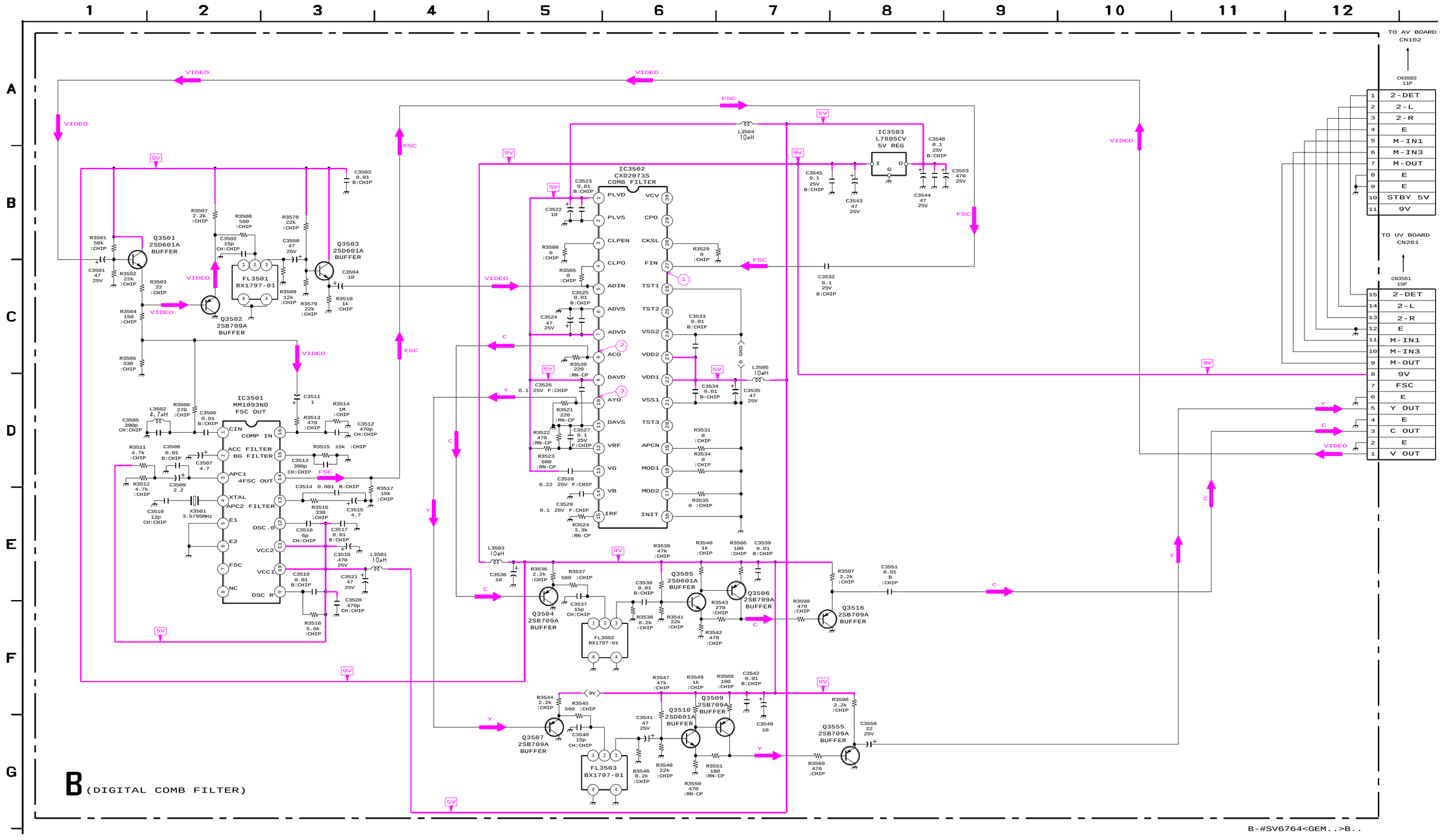
All voltages are in V

AV BOARD IC VOLTAGE LIST

IC1902	
pin	volt
1	4.9
2	4.6
3	-0.1
4	0.0
5	GND
6	0.0
7	0.0
8	NC
9	0.0
10	0.0
11	0.0
12	NC
13	0.0
14	0.5
15	0.5
16	GND

IC1901	
pin	volt
1	0.0
2	0.0
3	NC
4	NC
5	NC
6	NC
7	0.4
8	GND
9	NC
10	NC
11	8.6
12	GND
13	GND
14	0.0
15	0.0
16	8.6

All voltages are in V


1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G
VIDEO
FSC
9V
5V
C
Y
Q3501 2SD601A BUFFER
Q3502 2SB709A BUFFER
Q3503 2SD601A BUFFER
Q3504 2SB709A BUFFER
Q3505 2SD601A BUFFER
Q3506 2SB709A BUFFER
Q3507 2SB709A BUFFER
Q3509 2SB709A BUFFER
Q3510 2SD601A BUFFER
Q3516 2SB709A BUFFER
Q3555 2SB709A BUFFER
FL3501 BX1797-01
FL3502 BX1797-01
FL3503 BX1797-01
IC3501 MM1093ND FSC OUT
IC3502 CXD2073S COMB FILTER
IC3503 L7805CV 5V REG
CIN
COMP IN
ACC FILTER
BG FILTER
APC1
4FSC OUT
XTAL
APC2 FILTER
E1
E2
FSC
NC
DSC R
OSC.O
VCC2
VCC1
PLVD
PLVS
CLPEN
CLPO
ADIN
ADVS
ADVD
ACO
DAVD
AYO
DAVS
VRF
VG
VB
IRF
VCV
CPO
CKSL
FIN
TST1
TST2
VSS2
VDD2
VDD1
VSS1
TST3
APCN
MOD1
MOD2
INIT
I
G
O
TO AV BOARD CN102
CN3502 11P
2-DET
2-L
2-R
E
M-IN1
M-IN3
M-OUT
E
E
STBY 5V
9V
TO UV BOARD CN261
CN3561 15P
2-DET
2-L
2-R
E
M-IN1
M-IN3
M-OUT
9V
FSC
E
Y OUT
E
C OUT
E
V OUT
B (DIGITAL COMB FILTER)
B-#SV6764<GEM..>B..

B BOARD WAVEFORMS

1	2	3
2.0 Vp-p (H)	1.3 Vp-p (H)	1.4 Vp-p (H)

B BOARD IC VOLTAGE LIST

IC3501	
pin	volt
1	3.5
2	0.7
3	2.5
4	3.3
5	GND
6	GND
7	NC
8	NC
9	3.5
10	5.0
11	5.0
12	3.3
13	2.3
14	3.0
15	0.7
16	2.3

IC3502	
pin	volt
1	5.0
2	GND
3	0
4	1.5
5	1.5
6	GND
7	5.0
8	1.1
9	5.0
10	1.0
11	0
12	2.0
13	2.7
14	0.9

15	2.0
16	GND
17	0
18	0
19	0
20	NC
21	GND
22	5.0
23	5.0
24	GND
25	NC
26	GND
27	2.4
28	0
29	NC
30	NC

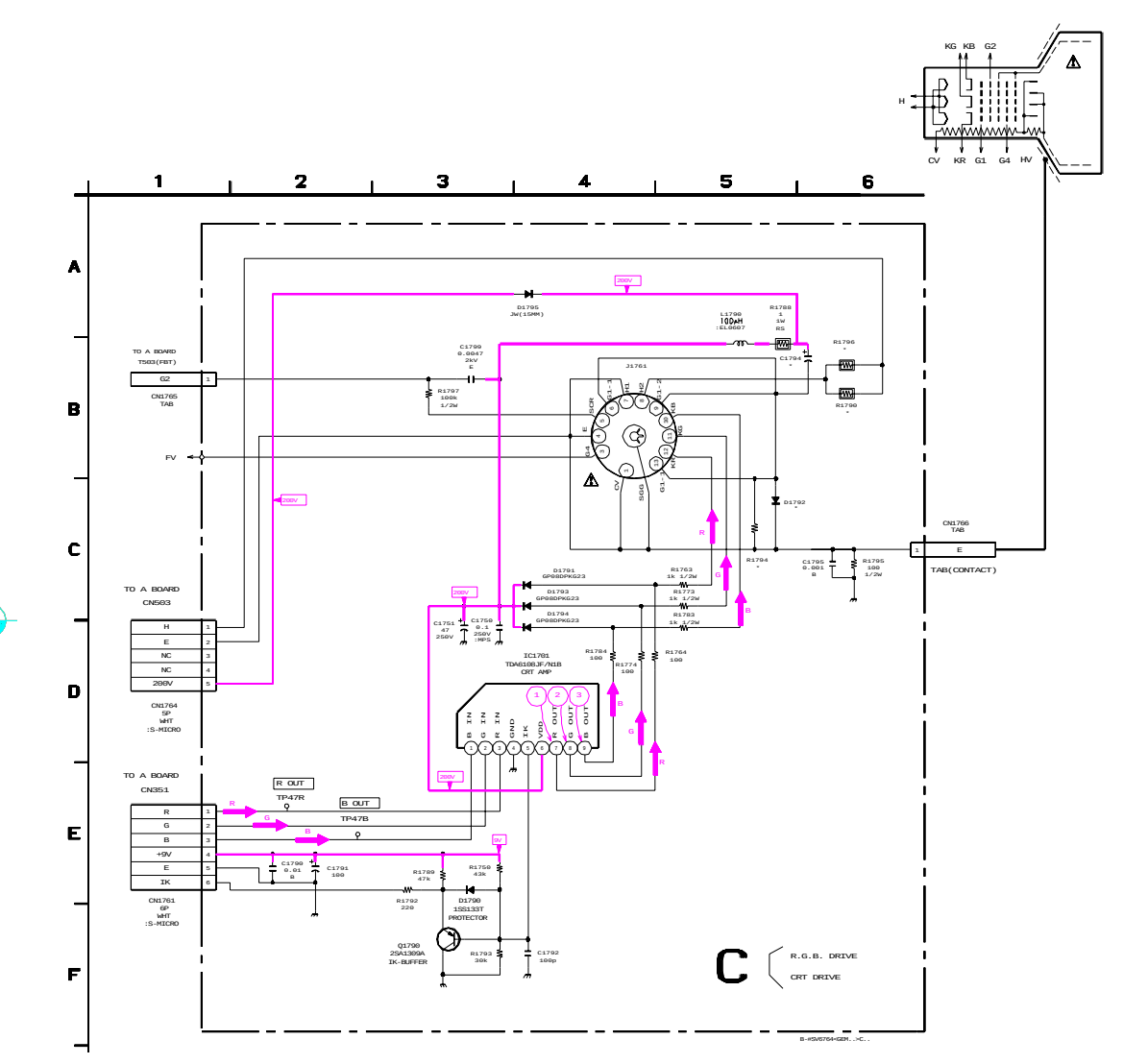
IC3503	
pin	volt
OUT	5.0
GND	GND
IN	8.6

All voltages in V

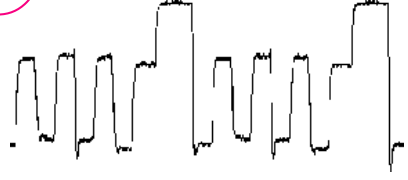
B BOARD TRANSISTOR VOLTAGE LIST

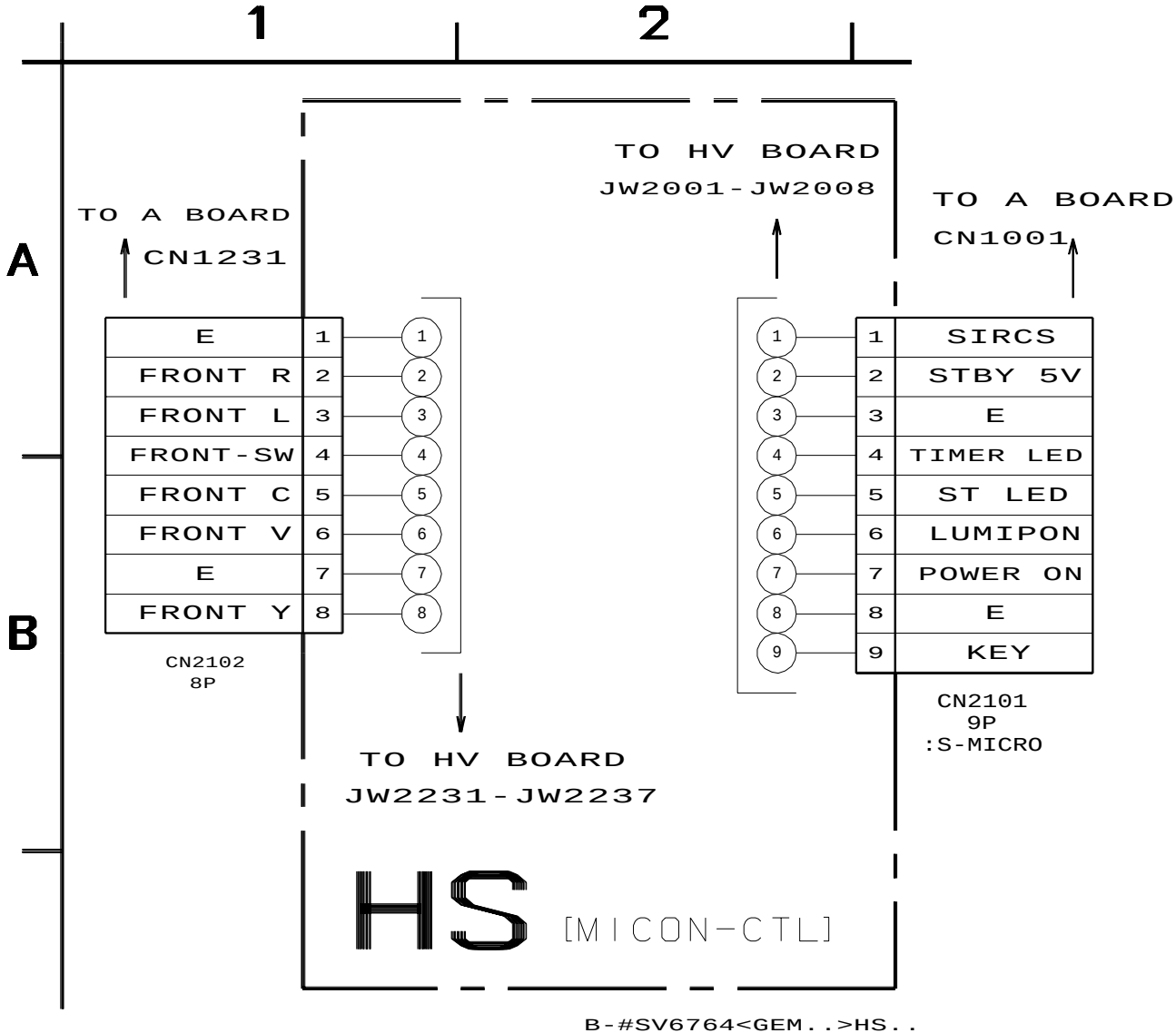
	B	C	E
Q3501	2.1	8.6	1.5
Q3502	1.4	GND	2.0
Q3503	4.1	8.6	3.5
Q3504	1.1	GND	1.7
Q3505	2.6	7.6	2.0
Q3506	7.6	3.0	8.2
Q3507	1.0	GND	1.7
Q3509	7.6	2.7	8.2
Q3510	2.7	7.6	2.0
Q3516	3.0	GND	3.6
Q3555	2.7	GND	3.4

All voltages are in V

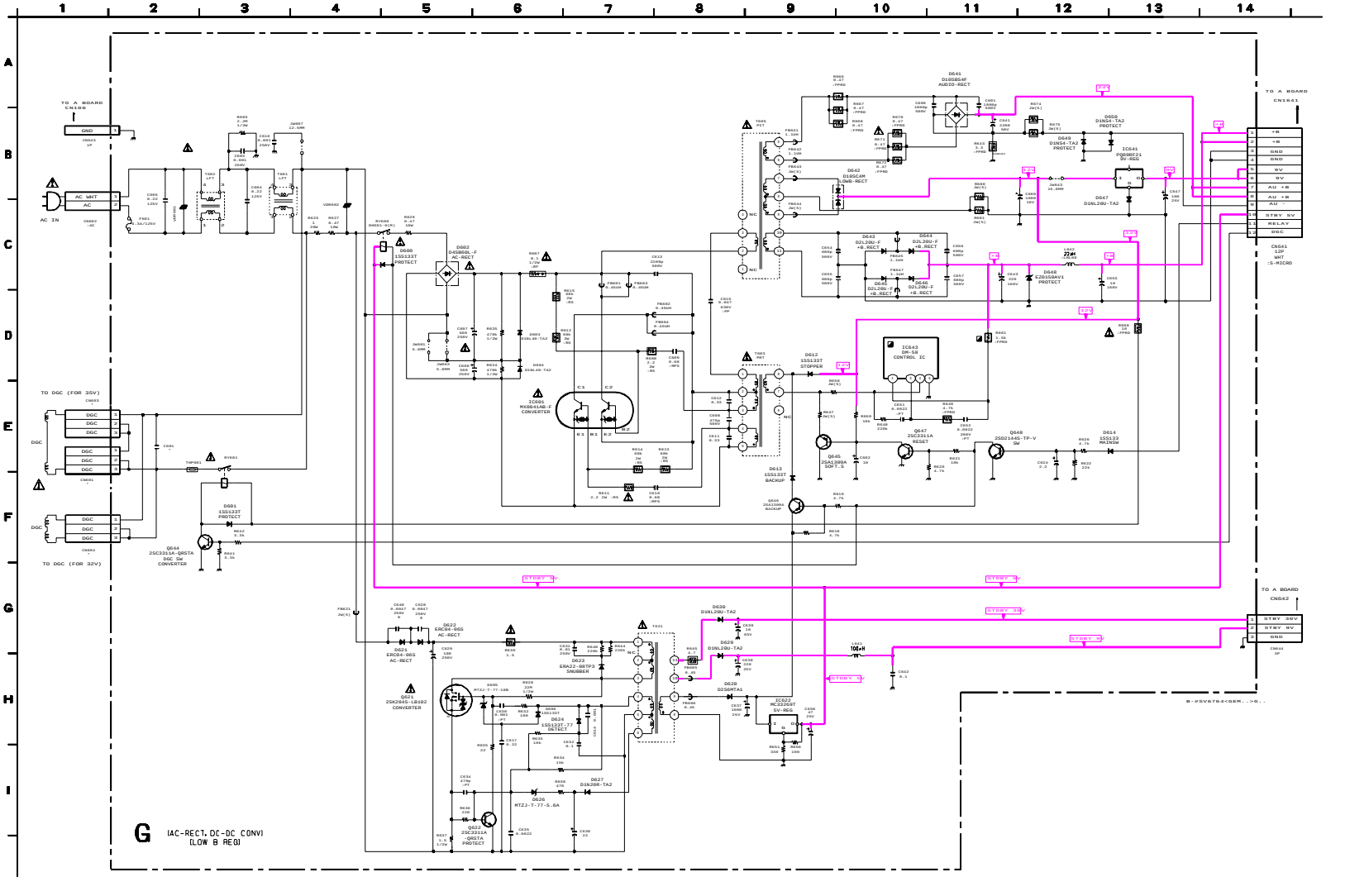

KG KB G2
H
CV KR G1 G4 HV
1 2 3 4 5 6
A B C D E F
TO A BOARD T503(FBT)
G2
CN1765 TAB
FV
TO A BOARD CN503
H E NC NC 200V
CN1764 5P WHT :S-MICRO
TO A BOARD CN351
R G B +9V E IK
CN1761 6P WHT :S-MICRO
R OUT
TP47R
B OUT
TP47B
200V
D1795 JW(1SRM)
L1790 100uH :EL0607
R1788 1 1W RS
C1799 0.0047 2kV E
R1797 100k 1/2W
J1761
D1792
CN1766 TAB
E
TAB(CONTACT)
C1794
R1796
R1790
C1795 0.001 B
R1795 100 1/2W
D1791 GP08DPKG23
D1793 GP08DPKG23
D1794 GP08DPKG23
R1763 1k 1/2W
R1773 1k 1/2W
R1783 1k 1/2W
C1751 47 250V
C1750 0.1 250V MPS
IC1701 TDA6108JF/N1B CRT AMP
R1784 100
R1774 100
R1764 100
B IN
G IN
R IN
GND
IK
VDD
R OUT
G OUT
B OUT
C1790 0.01 B
C1791 100
R1789 47k
R1750 43k
R1792 220
D1790 1SS133T PROTECTOR
Q1790 2SA1309A IK-BUFFER
R1793 30k
C1792 100p
C
R.G.B. DRIVE
CRT DRIVE
B-MSV6764-GEN..-C..

C BOARD WAVEFORMS

1 148.0 Vp-p (H)	2 128.0 Vp-p (H)	3  123.1 Vp-p (H)



B-#SV6764<GEM..>HS..


G
(AC-RECT, DC-DC CONV)
(LOW B REG)
TO A BOARD CN1661
TO A BOARD CN642
TO DGC (FOR 36V)
TO DGC (FOR 32V)
AC IN
AC WHT
AC
GND
DGC
CN661 12P WHT :S-MICRO
CN642 3P
CN644 3P
CN643 1P
CN663
CN662
CN660
CN661
CN882 -AC
IC643 DM-S8 CONTROL IC
IC660 MX884148-F CONVERTER
IC641 PQ08RF21 8V-REG
IC642 MC33269T 8V-REG
D602 04S860L-F AC-RECT
D622 ERC84-06S AC-RECT
D621 ERC84-06S AC-RECT
D623 ERA22-08TP3 DAN88848
D624 1SS122T-77 DNTEC
D626 MTZJ-T-77-5.6A
D627 DIN208-TA2
D628 D2S4MTA1
D629 DIN120U-TA2
D630 DIN120U-TA2
D631 DIN120U-TA2
D632 DIN120U-TA2
D633 DIN120U-TA2
D634 DIN120U-TA2
D635 DIN120U-TA2
D636 DIN120U-TA2
D637 DIN120U-TA2
D638 DIN120U-TA2
D639 DIN120U-TA2
D640 DIN120U-TA2
D641 D16GB54F AUDIO-RECT
D642 D10GC4M DNB-RECT
D643 D2L20U-F +B-RECT
D644 D2L20U-F +B-RECT
D645 D2L20U-F +B-RECT
D646 D2L20U-F +B-RECT
D647 DIN120U-TA2
D648 E20S10AV1 PROTECT
D649 D10GH-TA2 PROTECT
D650 D10GH-TA2 PROTECT
D601 1SS133T PROTECT
D609 1SS133T PROTECT
D611 1SS133T STOPPER
D612 1SS133T BACKUP
D613 1SS133T BACKUP
D614 1SS133 MAINSW
Q601 2SK2645-LB102 CONVERTER
Q622 2SC3311A -QRSTA PROTECT
Q644 2SC3311A-QRSTA DGC SW CONVERTER
Q645 2SA1309A SOFT-S
Q646 2SA1309A BACKUP
Q647 2SC3311A RESET
Q648 2SD2144S-TP-V SW
STBY_5V
STBY_8V
STBY_36V
B-RSV8764<GEM..>0..

G BOARD IC VOLTAGE LIST

IC601	
pin	volt
C-1	7.0
C-2	151
B-1	-153
B-2	5.6
E-1	-151
E-2	7.0
IC622	
pin	volt
IN	7.0
OUT	5.4
G	GND
IC641	
pin	volt
IN	11.1
OUT	9.5
G	GND
IC643	
1	134
2	NC
3	2.4
4	8.2
5	GND

All voltages are in V

G BOARD TRANSISTOR VOLTAGE LIST

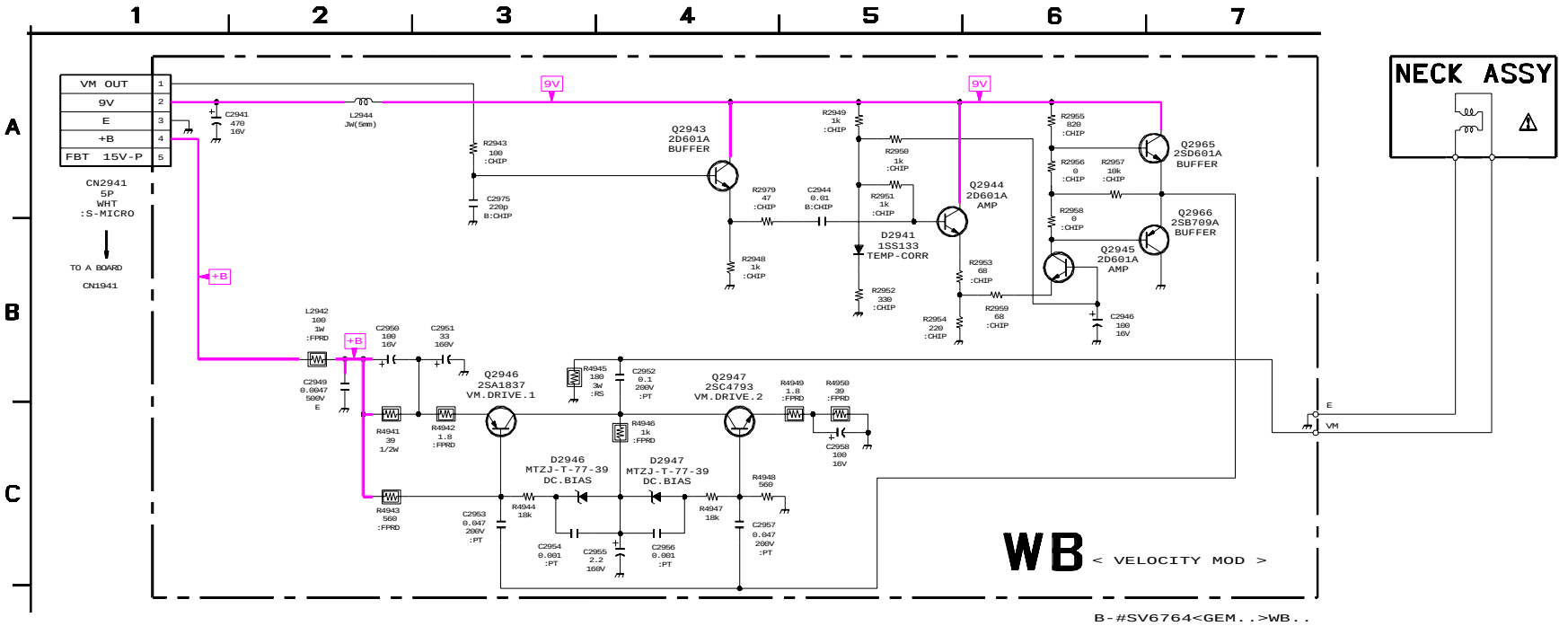
	B	C	E
Q622	0.4	2.5	0
Q644	0	11.1	GND
Q645	11.1	GND	8.2
Q646	6.2	6.9	6.9
Q647	0	11.1	GND
Q648	0.7	0.09	GND

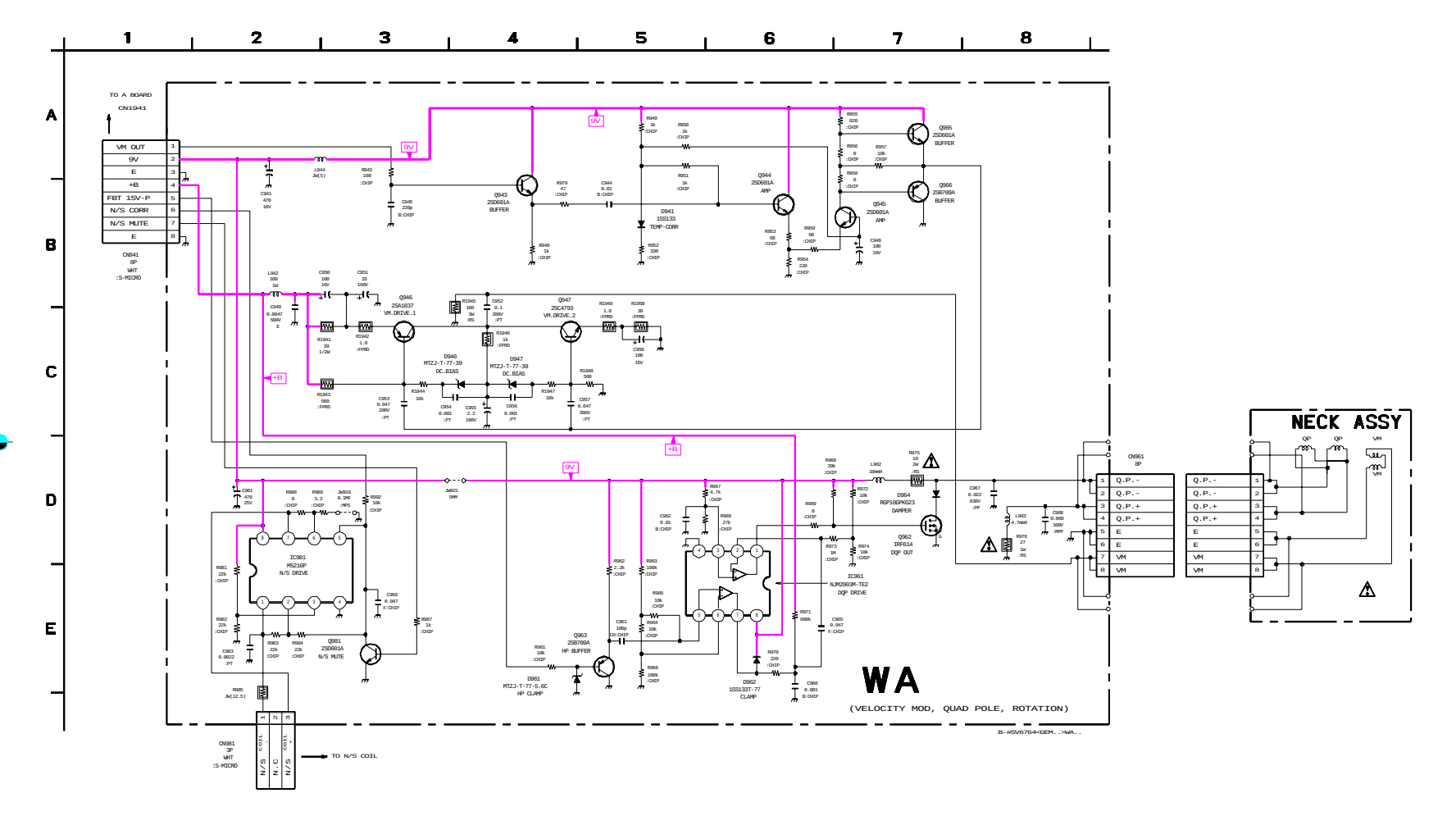
All voltages are in V

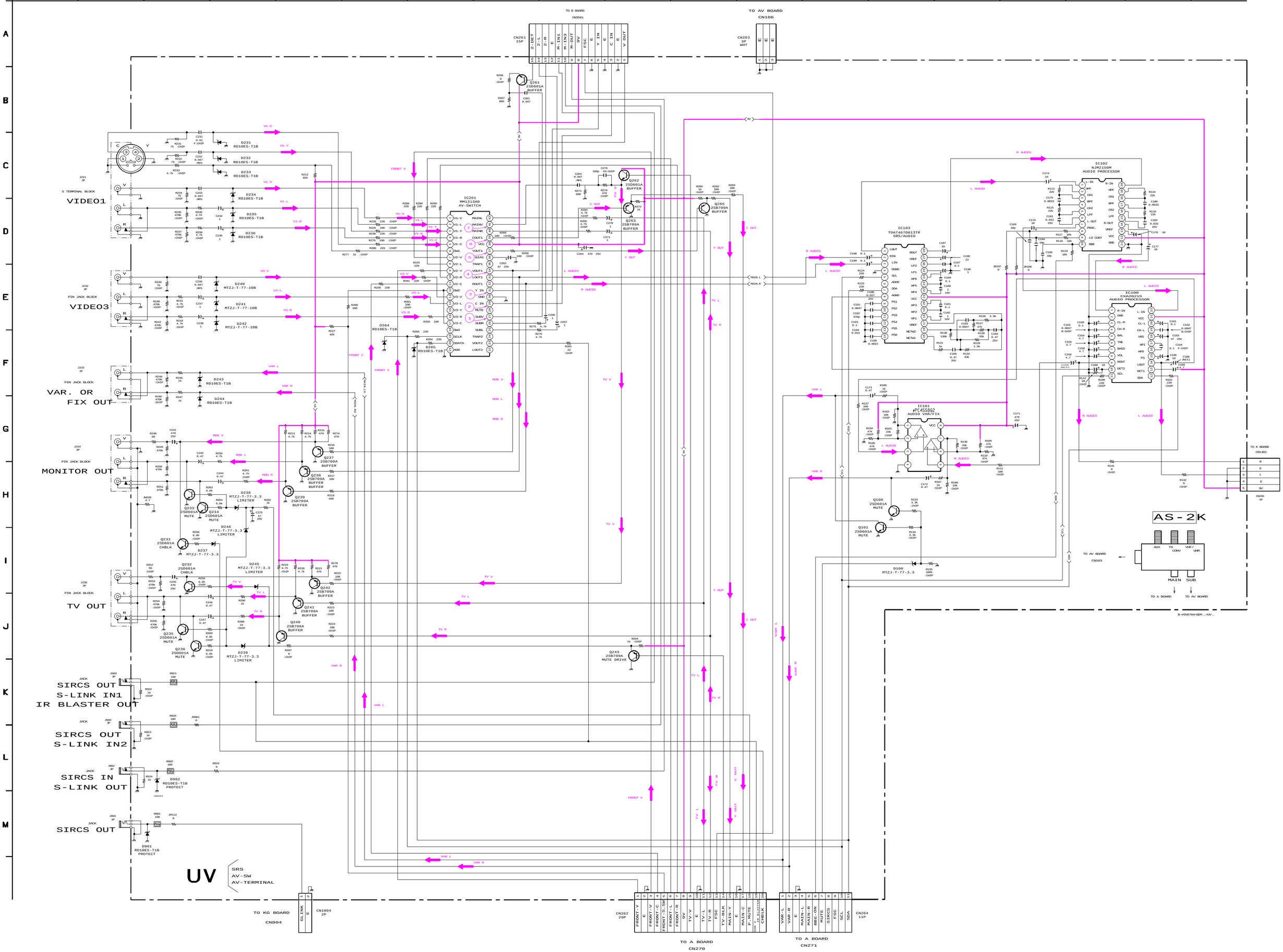
G BOARD TRANSISTOR VOLTAGE LIST

	D	G	S
Q621	147	2.5	0.1

All voltages are in V


1
2
3
4
5
6
7
A
B
C
VM OUT
9V
E
+B
FBT 15V-P
CN2941
5P
WHT
:S-MICRO
TO A BOARD
CN1941
C2941
470
16V
L2944
Jw(5mm)
9V
R2943
100
:CHIP
C2975
220p
B:CHIP
Q2943
2D601A
BUFFER
R2979
47
:CHIP
C2944
0.01
B:CHIP
R2948
1k
:CHIP
R2949
1k
:CHIP
R2950
1k
:CHIP
R2951
1k
:CHIP
D2941
1SS133
TEMP-CORR
R2952
330
:CHIP
Q2944
2D601A
AMP
R2953
68
:CHIP
R2954
220
:CHIP
R2959
68
:CHIP
C2946
100
16V
9V
R2955
820
:CHIP
R2956
0
:CHIP
R2957
10k
:CHIP
R2958
0
:CHIP
Q2965
2SD601A
BUFFER
Q2966
2SB709A
BUFFER
Q2945
2D601A
AMP
NECK ASSY
E
VM
+B
L2942
100
1W
:FPRD
C2949
0.0047
500V
E
+B
C2950
100
16V
C2951
33
160V
R4941
39
1/2W
R4942
1.8
:FPRD
Q2946
2SA1837
VM.DRIVE.1
R4945
180
3W
:RS
C2952
0.1
200V
:PT
R4946
1k
:FPRD
Q2947
2SC4793
VM.DRIVE.2
R4949
1.8
:FPRD
R4950
39
:FPRD
C2958
100
16V
R4943
560
:FPRD
C2953
0.047
200V
:PT
D2946
MTZJ-T-77-39
DC.BIAS
D2947
MTZJ-T-77-39
DC.BIAS
R4944
18k
R4947
18k
R4948
560
C2954
0.001
:PT
C2955
2.2
160V
C2956
0.001
:PT
C2957
0.047
200V
:PT
WB
< VELOCITY MOD >
B-#SV6764<GEM..>WB..


1
2
3
4
5
6
7
8
A
B
C
D
E
TO A BOARD
CN1941
VM OUT
9V
E
+B
FBT 15V-P
N/S CORR
N/S MUTE
E
CN941
8P
WHT
:S-MICRO
9V
+B
Q943
2SD601A
BUFFER
Q944
2SD601A
AMP
Q945
2SD601A
AMP
Q965
2SD601A
BUFFER
Q966
2SB709A
BUFFER
D941
1SS133
TEMP-CORR
Q946
2SA1837
VM.DRIVE.1
Q947
2SC4793
VM.DRIVE.2
D946
MTZJ-T-77-39
DC.BIAS
D947
MTZJ-T-77-39
DC.BIAS
IC981
MS216P
N/S DRIVE
Q981
2SD601A
N/S MUTE
Q963
2SB709A
HP BUFFER
D961
MTZJ-T-77-5.6C
HP CLAMP
D962
1SS133T-77
CLAMP
IC961
NJM2903M-TE2
DQP DRIVE
D964
RGP10GFKD23
DAMPER
Q962
IRF614
DQP OUT
CN961
8P
Q.P.-
Q.P.-
Q.P.+
Q.P.+
E
E
VM
VM
NECK ASSY
QP
QP
VM
VM
WA
(VELOCITY MOD, QUAD POLE, ROTATION)
B-WSV6764-GEM..-WA..
CN981
3P
WHT
:S-MICRO
N/S COIL -
N.C
N/S COIL +
TO N/S COIL

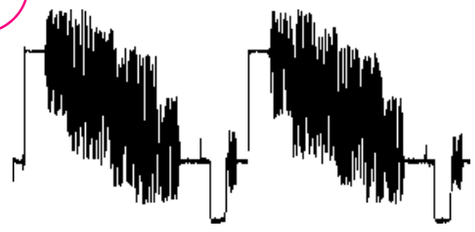

TO B BOARD
CN501
CN261
15P
2 DET
2 L
2 R
E
M-IN1
M-IN3
M-OUT
9V
FSC
E
Y IN
C IN
E
V OUT
TO AV BOARD
CN106
CN263
3P
WHT
E
E
E
Q261
2SD601A
BUFFER
Q262
2SD601A
BUFFER
Q263
2SB709A
BUFFER
Q265
2SB709A
BUFFER
IC261
MM1313AD
AV-SWITCH
MAINL
MAINV
MAINR
COUT1
VOUT1
BIAS
TRAP1
VOUT1
LOUT1
ROUT1
Y IN
MUTE
SUBV
SUBR
TRAP2
VOUT2
LOUT2
S terminal block
VIDEO1
PIN JACK BLOCK
VIDEO3
PIN JACK BLOCK
VAR. OR
FIX OUT
PIN JACK BLOCK
MONITOR OUT
PIN JACK BLOCK
TV OUT
JACK
SIRCS OUT
S-LINK IN1
IR BLASTER OUT
JACK
SIRCS OUT
S-LINK IN2
JACK
SIRCS IN
S-LINK OUT
JACK
SIRCS OUT
D902
RD10ES-T1B
PROTECT
D901
RD10ES-T1B
PROTECT
D231
RD10ES-T1B
D232
RD10ES-T1B
D233
RD10ES-T1B
D234
RD10ES-T1B
D235
RD10ES-T1B
D236
RD10ES-T1B
D240
MTZJ-T-77-10B
D241
MTZJ-T-77-10B
D242
MTZJ-T-77-10B
D243
RD10ES-T1B
D244
RD10ES-T1B
D264
RD10ES-T1B
D265
RD10ES-T1B
Q233
2SD601A
MUTE
Q234
2SD601A
MUTE
D238
MTZJ-T-77-3.3
LIMITER
D246
MTZJ-T-77-3.3
LIMITER
Q231
2SD601A
CHBLK
D237
MTZJ-T-77-3.3
Q232
2SD601A
CHBLK
D245
MTZJ-T-77-3.3
LIMITER
Q235
2SD601A
MUTE
Q236
2SD601A
MUTE
D239
MTZJ-T-77-3.3
LIMITER
Q237
2SB709A
BUFFER
Q238
2SB709A
BUFFER
Q239
2SB709A
BUFFER
Q241
2SB709A
BUFFER
Q242
2SB709A
BUFFER
Q240
2SB709A
BUFFER
Q243
2SB709A
MUTE DRIVE
IC103
TDA7467D013TR
SRS/AUDIO
IC102
NJM2150M
AUDIO PROCESSOR
IC100
CXA2021S
AUDIO PROCESSOR
IC101
μPC4558G2
AUDIO VAR/FIX
Q100
2SD601A
MUTE
Q101
2SD601A
MUTE
D100
MTZJ-T-77-3.3
AS-2K
ALX
TO
CONV
VHF/
UHF
MAIN
SUB
TO AV BOARD
CN103
TO A BOARD
TO A BOARD
TO K BOARD
CN1461
CN265
5P
UV
SRS
AV-SW
AV-TERMINAL
TO KG BOARD
CN804
CN1804
2P
GLINK
E
TO A BOARD
CN270
CN262
20P
FRONT-Y
E
FRONT-V
FRONT-C
FRONT-S-SW
FRONT-L
FRONT-R
9V
TV-V
E
TV-L
TV-R
FSC
TV-BLK
MAIN-Y
MAIN-C
P.MUTE
CHBLK
TO A BOARD
CN271
CN264
11P
VAR-L
VAR-R
E
MAIN-L
MAIN-R
BBE-ON
MUTE
SIRCS
FSC
SCL
SDA
R AUDIO
L AUDIO
FRONT V
FRONT C
FRONT Y
TV V
TV L
TV R
Y OUT
C OUT
VAR L
VAR R
MON V
MON L
MON R
9V
MAIN.L
MAIN.R

UV BOARD
LOCATOR LIST

CONNECTOR	
CN261	A-5
CN262	F-8
CN263	A-3
CN264	F-2
CN265	A-7
DIODE	
D100	B-8
D231	B-5
D232	B-5
D233	B-5
D234	B-5
D235	B-5
D236	B-5
D237	E-3
D238	E-3
D239	E-3
D240	C-5
D241	C-5
D242	C-5
D243	F-3
D244	F-3
D245	E-3
D246	E-2
D264	F-1
D265	F-1
D902	B-1
IC	
IC100	A-7
IC101	C-8
IC102	B-7
IC103	D-7
IC261	C-4
TRANSISTOR	
Q100	B-8
Q101	B-8
Q231	D-3
Q232	C-2
Q233	E-3
Q234	D-3
Q235	C-2
Q236	C-3
Q237	C-3
Q238	C-3
Q239	C-3
Q240	B-2
Q241	B-3
Q242	A-3
Q243	F-5
Q261	A-4
Q262	A-4
Q263	B-3
Q265	B-4

UV BOARD WAVEFORMS

1



2.1 Vp-p (H)

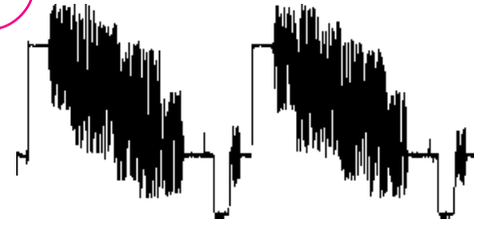
2

1.0 Vp-p (H)

3

1.8 Vp-p (H)

4



2.1 Vp-p (H)

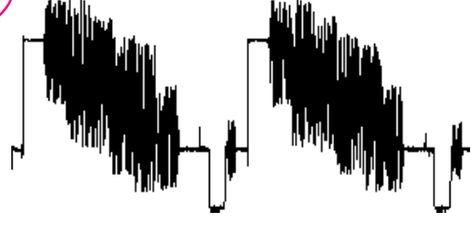
5

1.8 Vp-p (H)

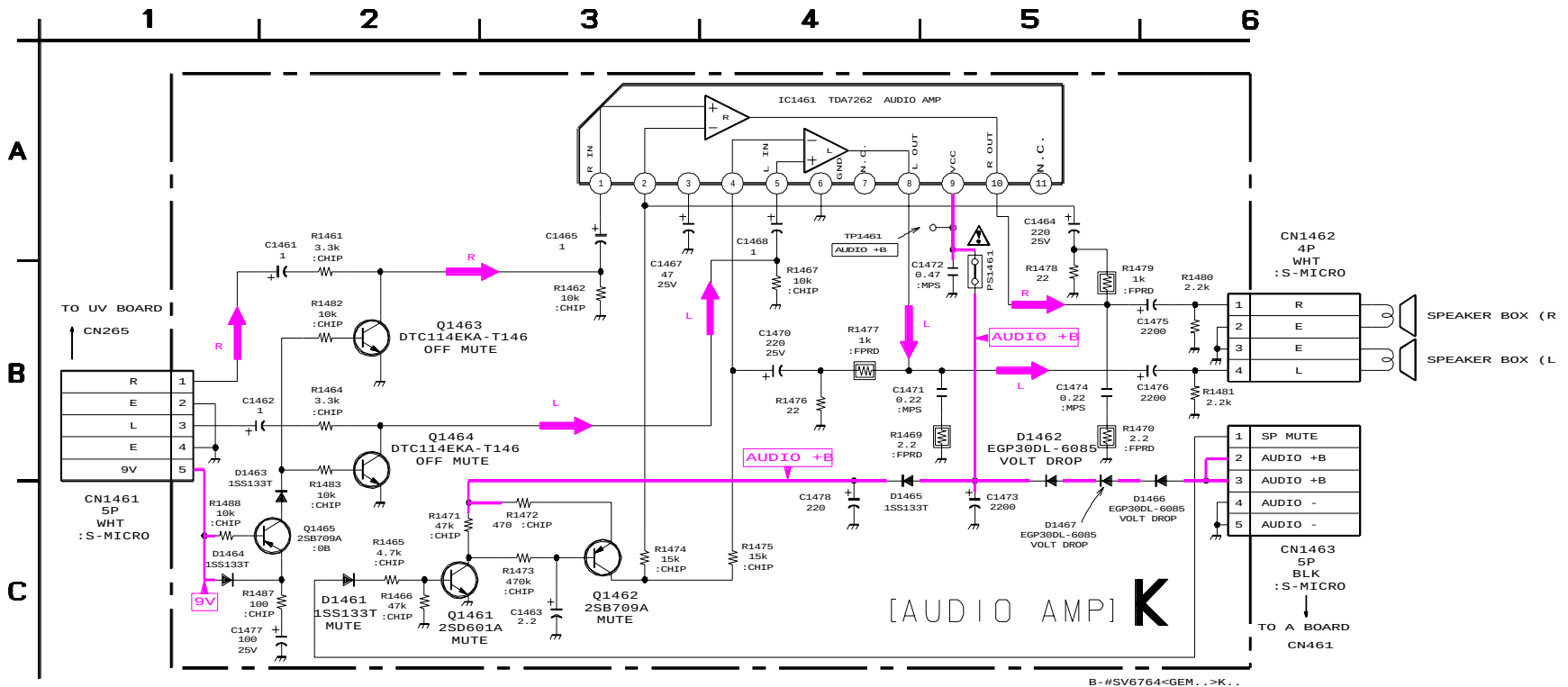
6

1.0 Vp-p (H)

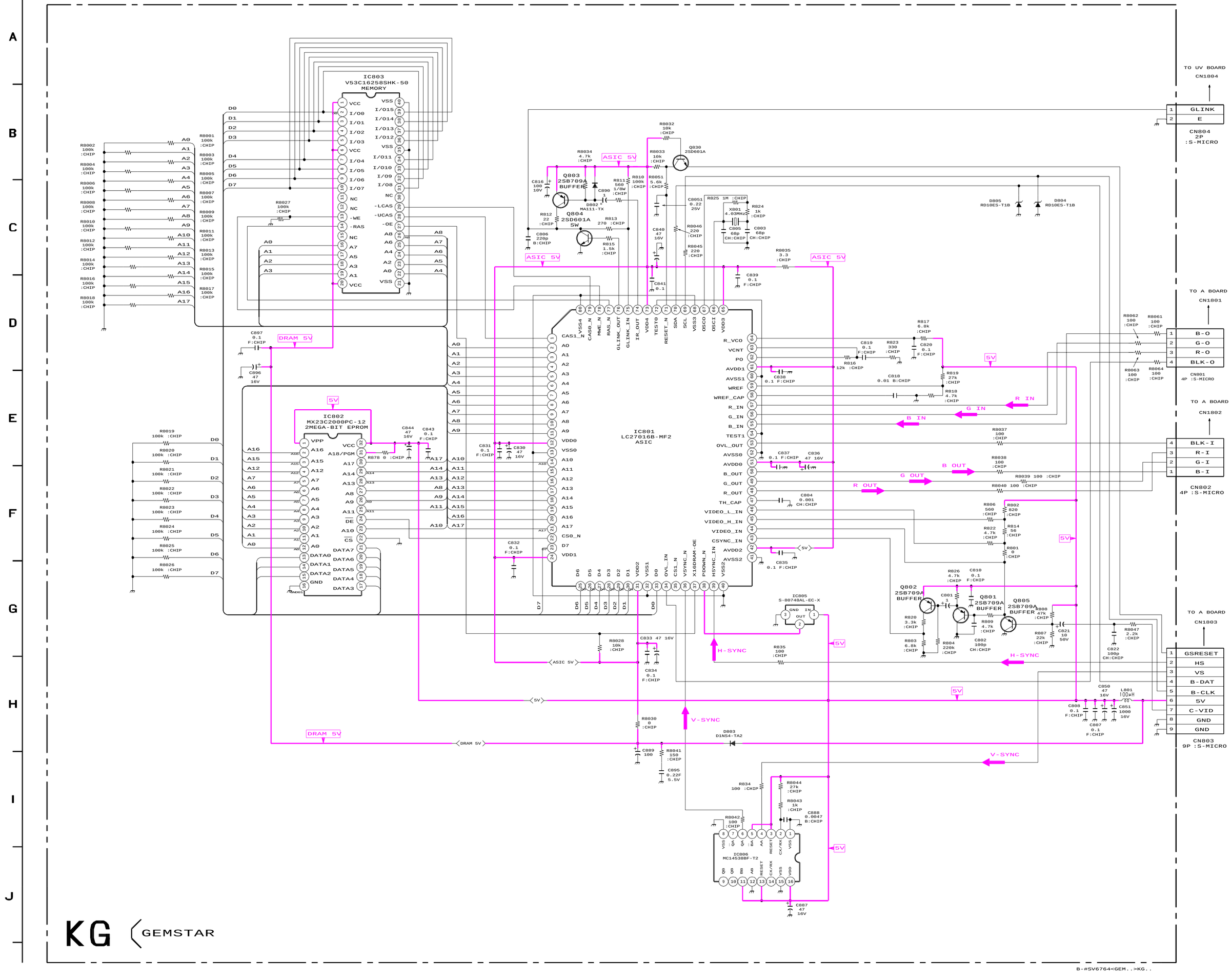
7



1.2 Vp-p (H)



B-#SV6764<GEM..>K..


IC803
V53C16258SHK-50
MEMORY
IC801
LC27016B-MF2
ASIC
IC802
MX23C2000PC-12
2MEGA-BIT EPROM
IC805
S-80748AL-EC-X
IC806
MC14538BF-T2
Q803
2SB709A
BUFFER
Q804
2SD601A
SW
Q830
2SD601A
Q802
2SB709A
BUFFER
Q801
2SB709A
BUFFER
Q805
2SB709A
BUFFER
D802
MA111-TX
D805
RD10ES-T1B
D804
RD10ES-T1B
D803
D1N54-TA2
X801
4.03MHz
ASIC 5V
DRAM 5V
5V
H-SYNC
V-SYNC
R IN
G IN
B IN
R OUT
G OUT
B OUT
TO UV BOARD
CN1804
CN804
2P
:S-MICRO
GLINK
E
TO A BOARD
CN1801
CN801
4P :S-MICRO
B-O
G-O
R-O
BLK-O
TO A BOARD
CN1802
CN802
4P :S-MICRO
BLK-I
R-I
G-I
B-I
TO A BOARD
CN1803
CN803
9P :S-MICRO
GSRESET
HS
VS
B-DAT
B-CLK
5V
C-VID
GND
GND
KG
GEMSTAR
B-#SV6764<GEM..>KG..

KG BOARD TRANSISTOR VOLTAGE LIST

	B	C	E
Q801	2.5	0	3.1
Q802	5.6	0.7	5.2
Q803	5.2	0	5.2
Q804	0	0	0
Q805	1.8	0	2.5
Q830	5.2	4.9	5.2

All voltages are in V

KG BOARD IC
VOLTAGE LIST

IC801	
pin	volt
1	2.8
2	2.1
3	2.2
4	2.2
5	2.4
6	2.4
7	2.4
8	2.4
9	2.4
10	2.4
11	2.4
12	2.4
13	GND
14	2.4
15	2.4
16	2.4
17	2.1
18	2.1
19	2.1
20	4.9
21	4.9
22	4.8
23	0
24	4.9
25	0
26	0
27	0
28	0
29	0
30	0
31	5.1
32	GND
33	0
34	0
35	NC
36	0
37	5.1
38	5.3
39	4.2
40	GND

IC801	
pin	volt
41	GND
42	5.1
43	0.3
44	2.5
45	2.6
46	2.5
47	0
48	0.1
49	0.1
50	0.1
51	5.1
52	GND
53	0
54	GND
55	0
56	0
57	0
58	0
59	0.7
60	GND
61	5.1
62	0.1
63	0
64	5.3
65	5.1
66	4.6
67	5.1
68	GND
69	5.2
70	5.2
71	5.1
72	GND
73	5.1
74	1.0
75	0
76	0.1
77	0
78	0
79	0
80	GND

IC802	
1	5.2
2	2.5
3	2.5
4	1.6
5	3.0
6	3.1
7	3.0
8	3.0
9	2.4
10	2.1
11	2.2
12	2.2
13	1.7
14	1.6
15	1.9
16	GND
17	1.4
18	1.2
19	1.7
20	1.6
21	2.0
22	GND
23	2.4
24	3.9
25	1.9
26	1.7
27	3.1
28	3.4
29	2.4
30	2.5
31	5.2
32	5.2

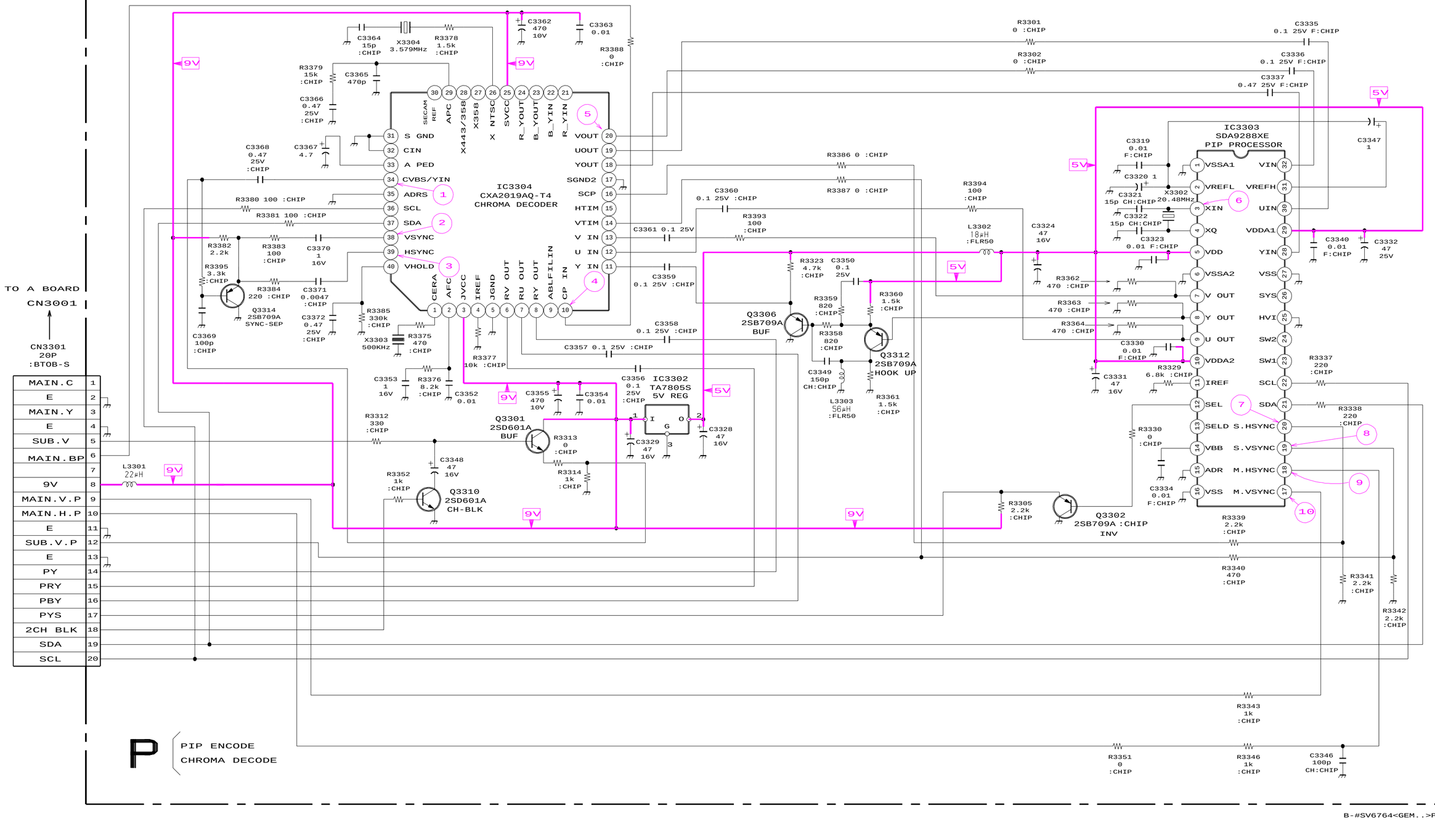
IC803	
pin	volt
1	4.9
2	1.7
3	1.6
4	1.9
5	1.4
6	4.9
7	1.2
8	1.7
9	1.6
10	2.2
11	0
12	0
13	4.6
14	4.2
15	0
16	3.0
17	3.0
18	3.0
19	2.2
20	4.9
21	GND
22	1.3
23	0.4
24	3.5
25	1.7
26	1.9
27	0
28	4.8
29	4.6
30	0
31	0.5

32	0
33	0.5
34	0.8
35	GND
36	0.5
37	2.1
38	1.5
39	2.1
40	GND

IC805	
pin	volt
1	5.2
2	5.2
3	GND

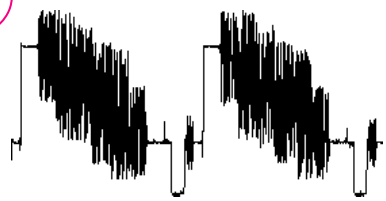
IC806	
pin	volt
1	GND
2	5.2
3	5.2
4	1.2
5	5.2
6	0
7	5.2
8	GND
9	NC
10	NC
11	5.2
12	GND
13	5.2
14	NC
15	GND
16	5.2

All voltages are in V


TO A BOARD
CN3001
CN3301
20P
:BTOB-S
MAIN.C 1
E 2
MAIN.Y 3
E 4
SUB.V 5
MAIN.BP 6
7
9V 8
MAIN.V.P 9
MAIN.H.P 10
E 11
SUB.V.P 12
E 13
PY 14
PRY 15
PBY 16
PYS 17
2CH BLK 18
SDA 19
SCL 20
IC3304
CXA2019AQ-T4
CHROMA DECODER
IC3303
SDA9288XE
PIP PROCESSOR
IC3302
TA7805S
5V REG
Q3301
2SD601A
BUF
Q3306
2SB709A
BUF
Q3310
2SD601A
CH-BLK
Q3312
2SB709A
HOOK UP
Q3302
2SB709A :CHIP
INV
X3304
3.579MHz
X3303
500KHz
X3302
20.48MHz
L3301
22μH
L3302
18μH
:FLR50
L3303
56μH
:FLR50
9V
5V
P
PIP ENCODE
CHROMA DECODE
B-#SV6764<GEM..>P..

P BOARD WAVEFORMS

1



2.6 Vp-p (H)

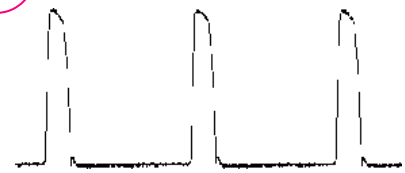
2

2.1 Vp-p (8MHz)

3

2.3 Vp-p (H)

4



3.2 Vp-p (H)

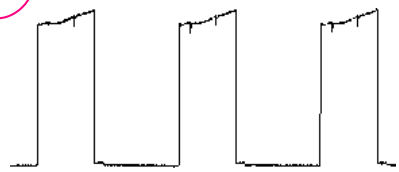
5

1.0 Vp-p (H)

6

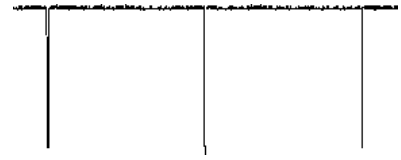
3.9 Vp-p (V)

7



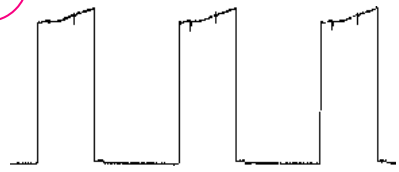
3.4 Vp-p (H)

8



4.0 Vp-p (V)

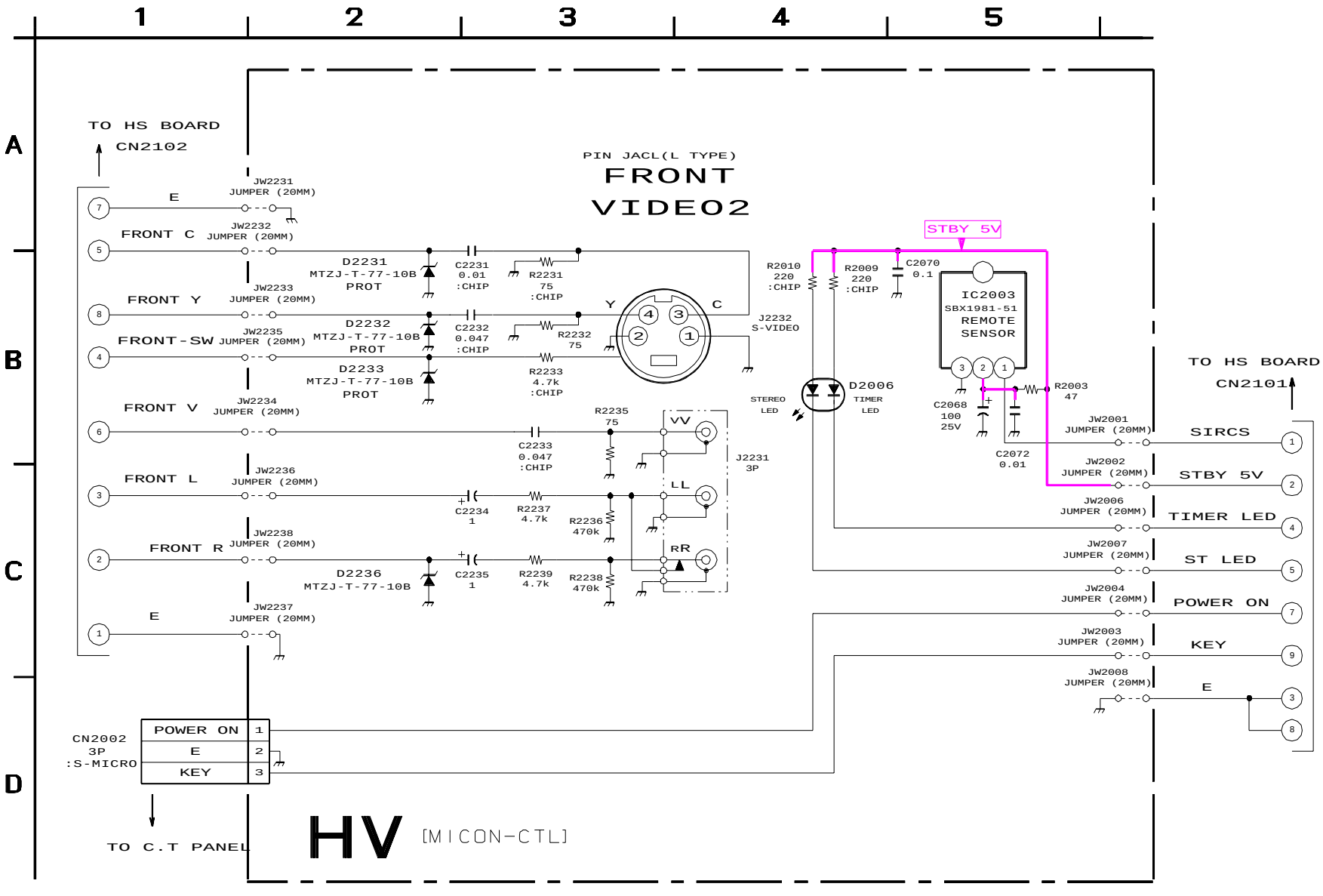
9



6.5 Vp-p (H)

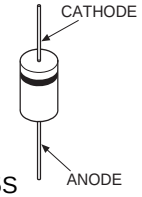
10

6.2 Vp-p (V)


1
2
3
4
5
A
B
C
D
TO HS BOARD
CN2102
PIN JACL(L TYPE)
FRONT
VIDEO2
JW2231
JUMPER (20MM)
E
JW2232
JUMPER (20MM)
FRONT C
JW2233
JUMPER (20MM)
FRONT Y
JW2235
JUMPER (20MM)
FRONT-SW
JW2234
JUMPER (20MM)
FRONT V
JW2236
JUMPER (20MM)
FRONT L
JW2238
JUMPER (20MM)
FRONT R
JW2237
JUMPER (20MM)
E
D2231
MTZJ-T-77-10B
PROT
D2232
MTZJ-T-77-10B
PROT
D2233
MTZJ-T-77-10B
PROT
D2236
MTZJ-T-77-10B
C2231
0.01
:CHIP
C2232
0.047
:CHIP
C2233
0.047
:CHIP
C2234
1
C2235
1
R2231
75
:CHIP
R2232
75
R2233
4.7k
:CHIP
R2235
75
R2237
4.7k
R2236
470k
R2239
4.7k
R2238
470k
Y
C
J2232
S-VIDEO
VV
LL
RR
J2231
3P
STBY 5V
R2010
220
:CHIP
R2009
220
:CHIP
C2070
0.1
IC2003
SBX1981-51
REMOTE
SENSOR
R2003
47
C2068
100
25V
C2072
0.01
D2006
STEREO
LED
TIMER
LED
TO HS BOARD
CN2101
JW2001
JUMPER (20MM)
SIRCS
JW2002
JUMPER (20MM)
STBY 5V
JW2006
JUMPER (20MM)
TIMER LED
JW2007
JUMPER (20MM)
ST LED
JW2004
JUMPER (20MM)
POWER ON
JW2003
JUMPER (20MM)
KEY
JW2008
JUMPER (20MM)
E
CN2002
3P
:S-MICRO
POWER ON
E
KEY
TO C.T PANEL
HV
[MICON-CTL]
B-#SV6764<GEM..>HV..

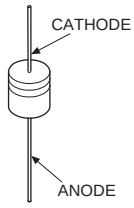
6-5. SEMICONDUCTORS

D1NL20U
D2L20U
EL1Z
EGP20G
EGP30G
ERA22-08
ERC06-15S
ERD29-08J
EZ0150AV1
GP08D
MTZJ-33A
1SS83

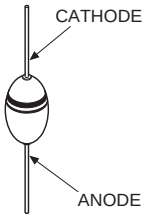


D1NS4
MTZJ-XXA
MTZJ-XXB
MTZJ-XXC
RDXXESB1
RDXXESB2
RDXXESB3
1SS119-25
1SS133T-77

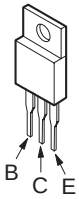
(XX = VALUE)



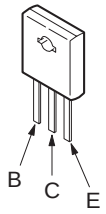
U05G



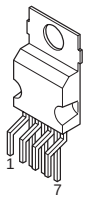
2SA1837
2SC4159-E
2SC4793
2SD2012



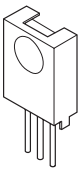
2SC4834M



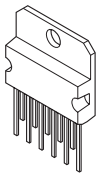
TDA8172



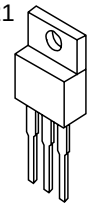
SBX1981



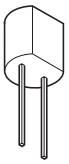
TDA2009A
TDA7262



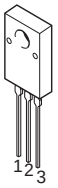
NJM78M05FA
PQ09RF21
TA7805S
BA05T



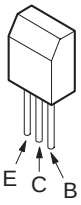
IC LINK
2A/90V



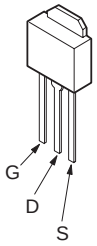
D10SC4M



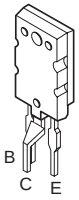
2SC3209LK



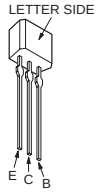
2SK2845-LB102



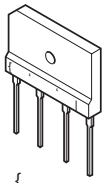
TSC5148
(LE SONY)



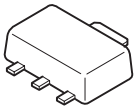
2SA1175-HFE
2SA933AS-QRT
2SC2785-HFE



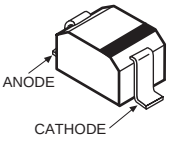
D10SBS4F
D6SB60L
D4SB60L



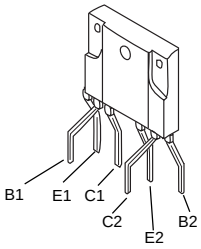
S-80748AL

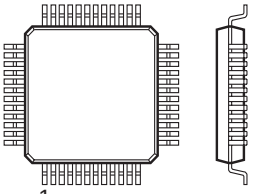


MA111
RD3.3SB
1SS355

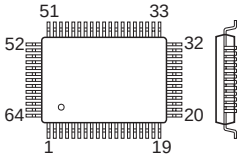


MX0841

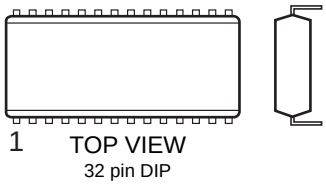




CXA2019Q

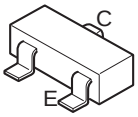


CXA1845Q - 64 pin
LC27016 - 80 pin
SAB9076AH
µPD6488GF-33A



MX27C2000C
V53C16258SHK - 40 pin DIP

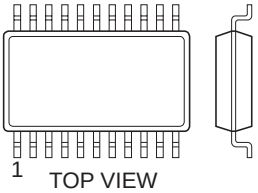
2SA1037K-T146-R
2SA1162-G
2SA1330-06
2SB709A
2SC1623-L5L6
2SD601A-Q



8 pin SOP
NJM2903M
NJM2904M
ST24C02FM6TR
µPC4558G2
X24C04SB

16 pin SOP
BU4053BCF-T2
CXA1315M
MC14052BF
MC14538B
NJM2145M-TE2

20 pin SOP
NJM2150M

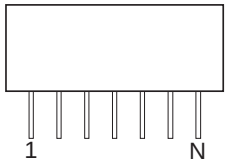


24 pin SOP
CXA2039M-T6

28 pin SOP
MN47V76ST1
MN47V77ST1

36 pin SOP
µPC1862GS-E2

DM-58



MARKING SIDE VIEW

Epin 1 ‘ N
EMt (one side, both sides)

14 pin DIP
NJM2902M

16 pin DIP
MM1093N

20 pin DIP
TA1226N

22 pin DIP
CXA2021S

28 pin DIP
TDA7467

30 pin DIP
CXD2073S

40 pin DIP
SDA9288XE

42 pin DIP
MM1311AD
MM1313AD

48 pin DIP
CXA2025AS
CXA2095S

64 pin DIP
CXP85856A-003S
CXP85840A

SECTION 7
EXPLODED VIEW

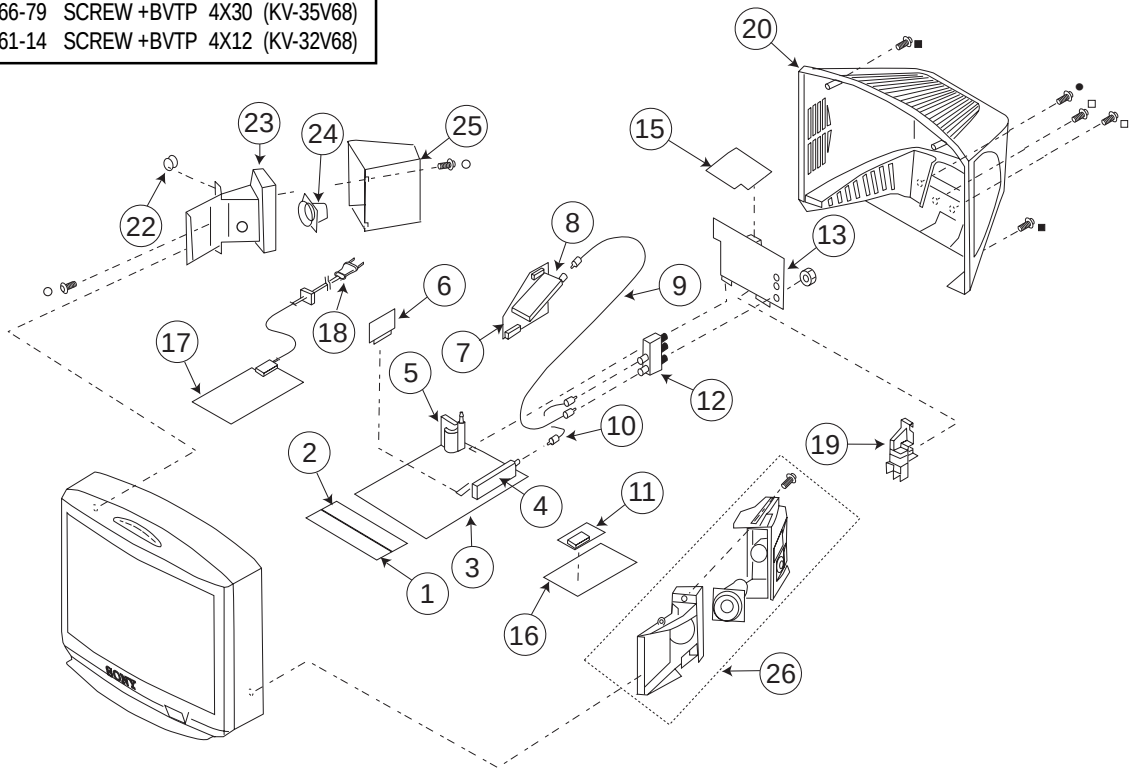
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The component parts of an assembly are indicated by the reference numbers in the remarks column.
- Items marked with an asterisk " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and "⚠" are critical for safety. Replace only with specified part number.

Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

7-1. CHASSIS

■	7-685-663-91	SCREW +BVTP 4X16	
□	7-685-648-79	SCREW +BVTP 3X12	(KV-32V68)
□	7-685-647-91	SCREW +BVTP 3X10	(KV-35V68)
●	7-685-665-71	SCREW +BVTP 4X25	(KV-32V68)
●	7-685-666-79	SCREW +BVTP 4X30	(KV-35V68)
○	7-685-661-14	SCREW +BVTP 4X12	(KV-32V68)

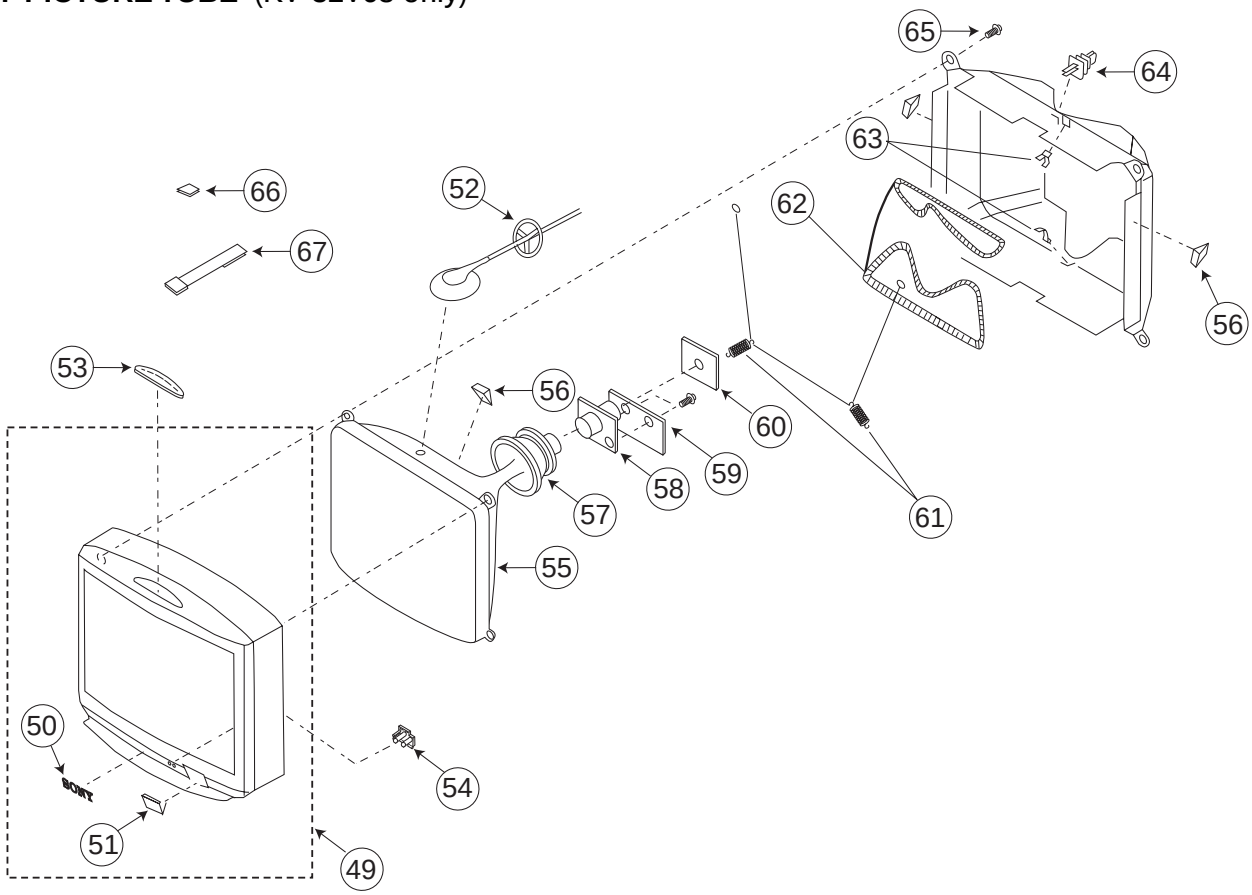


REF.NO.		PART NO.	DESCRIPTION	REMARK
1	*	A-1372-510-A	HS BOARD, COMPLETE	
2	*	A-1372-509-A	HV BOARD, COMPLETE	
3	*	A-1298-707-A	A BOARD, COMPLETE	(KV-32V68)
3	*	A-1298-706-A	A BOARD, COMPLETE	(KV-35V68)
4	⚠	8-598-431-00	TUNER, FSS BTF-WA411	
5	⚠	1-453-207-11	FBT ASSY, NX2609//X4C (KV-32V68)	
5	⚠	X-4034-797-1	FBT ASSY, NX-3005//J1C (KV-35V68)	
6	*	A-1195-138-A	P BOARD, COMPLETE	
7	*	A-1298-708-A	AV BOARD, COMPLETE	
8	⚠	8-598-430-00	TUNER, BTF-FA401	
9	*	1-556-945-21	CABLE, P-P	
10	*	1-557-056-31	CABLE, P-P	
11	*	A-1385-188-A	KG BOARD, COMPLETE	
12		8-598-414-10	ANTENNA CHANGER AS-2F	
13	*	A-1394-923-A	UV BOARD, COMPLETE	
15	*	A-1135-949-A	B BOARD, COMPLETE	
16	*	A-1380-585-A	K BOARD, COMPLETE	
17	*	A-1316-421-A	G BOARD, COMPLETE	(KV-32V68)
17	*	A-1316-420-A	G BOARD, COMPLETE	(KV-35V68)
18	⚠	1-751-059-11	CORD, POWER (WITH CONNECTOR) 10A/125V	
19	*	4-052-905-01	V5/6 BRACKET	
20		4-053-766-21	COVER, REAR	(KV-32V68)
20		4-052-903-11	COVER, REAR	(KV-35V68)
22		4-374-745-31	CUSHION (A)	(KV-32V68)
23		X-4035-400-1	BAFFLE ASSY, SPEAKER (KV-32V68)	
24		1-503-326-21	SPEAKER (8CM)	(KV-32V68)
25		X-4035-401-1	COVER ASSY, SPEAKER (KV- 32V68)	
26		1-505-684-11	SPEAKER UNIT, BOX TYPE (2WAY) (KV-35V68)	

The components identified by shading and "⚠" mark are critical for safety. Replace only with specified part number.

Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

7-2. PICTURE TUBE (KV-32V68 only)



REF.NO.		PART NO.	DESCRIPTION	REMARK
49		X-4035-593-1	BEZNET ASSY	50, 51
50		4-046-160-01	EMBLEM (NO. 9) SONY	
51		4-052-906-11	DOOR, CONTROL	
52		3-704-372-31	HOLDER, HV CABLE	
53		1-473-549-21	SWITCH BLOCK, CONTROL	
54	*	4-052-897-01	GUIDE, LED	
55	⚠	8-733-757-05	CRT 34FX2T(A80JYV52X)	
56		4-053-005-01	SPACER, DY	
57	⚠	8-451-482-11	DY Y34FXA2-V	
58	⚠	1-452-579-21	NECK ASSY, CRT (NA322)	
59	*	A-1372-508-A	WB BOARD, MOUNTED	
60	*	A-1331-837-A	C BOARD, COMPLETE	
61		4-036-329-01	SPRING (B) TENSION	
62	⚠	1-402-952-11	COIL, DEMAGNETIZATION	
63	*	4-371-629-01	STOPPER, WIRE	
64		4-033-681-01	HOLDER, LEAD	
65		4-041-268-01	SCREW (7), TAPPING	
66		1-452-885-11	MAGNET, LANDING	
67		4-062-047-01	PIECE A (110),CONV CORRECT	

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SECTION 8
ELECTRICAL PARTS LIST

Note:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:

Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

- The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F: nonflammable

CAPACITORS
- MF = µF

INDUCTORS
- UH = µH, MMH = mH

When indicating parts by reference number, please include the board name.

REF.NO.	PART NO.	DESCRIPTION			REMARK
A					
	***A-1298-707-A**	**A BOARD, COMPLETE (KV-32V68)**			
	***A-1298-706 -A**	**A BOARD, COMPLETE (KV-35V68)**			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	CAPACITOR				
C001	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C003	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C005	1-126-960-11	ELECT	1MF	20%	50V
C009	1-126-967-11	ELECT	47MF	20%	50V
C010	1-163-033-91	CERAMIC CHIP	0.022MF		50V
C012	1-216-033-00	RES, CHIP	220	5%	1/10W
C013	1-216-121-91	RES, CHIP	1M	5%	1/10W
C014	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C023	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C028	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C029	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C030	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C035	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C036	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C037	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C038	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C039	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C040	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C051	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C053	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C056	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C061	1-163-033-91	CERAMIC CHIP	0.022MF		50V
C062	1-163-033-91	CERAMIC CHIP	0.022MF		50V
C063	1-126-935-11	ELECT	470MF	20%	16V
C069	1-126-964-11	ELECT	10MF	20%	50V (KV-35V68 ONLY)
C070	1-126-967-11	ELECT	47MF	20%	50V
C071	1-164-096-11	CERAMIC	0.01MF		50V
C072	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C075	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C076	1-126-960-11	ELECT	1MF	20%	50V
C077	1-126-960-11	ELECT	1MF	20%	50V
C080	1-126-767-11	ELECT	1000MF	20%	16V
C353	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C354	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C355	1-126-959-11	ELECT	0.47MF	20%	50V
C356	1-126-963-11	ELECT	4.7MF	20%	50V
C357	1-126-959-11	ELECT	0.47MF	20%	50V
C358	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C359	1-126-933-11	ELECT	100MF	20%	16V
C363	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C364	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C365	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C366	1-130-495-00	FILM	0.1MF	5%	50V
C367	1-130-495-00	FILM	0.1MF	5%	50V
C368	1-130-495-00	FILM	0.1MF	5%	50V
C369	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C370	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V (KV-32V68)
C370	1-163-035-00	CERAMIC CHIP	0.047MF		50V (KV-35V68)
C371	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C372	1-126-959-11	ELECT	0.47MF	20%	50V
C373	1-126-960-11	ELECT	1MF	20%	50V
C376	1-126-964-11	ELECT	10MF	20%	50V
C377	1-130-495-00	FILM	0.1MF	5%	50V
C378	1-130-495-00	FILM	0.1MF	5%	50V
C379	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C380	1-126-768-11	ELECT	2200MF	20%	16V
C381	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C383	1-130-495-00	FILM	0.1MF	5%	50V
C385	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C386	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C387	1-126-961-11	ELECT	2.2MF	20%	50V
C388	1-126-959-11	ELECT	0.47MF	20%	50V
C390	1-126-960-11	ELECT	1MF	20%	50V
C391	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C392	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C461	1-126-966-11	ELECT	33MF	20%	16V (KV-32V68)

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Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

REF. NO.	PART NO.	DESCRIPTION			REMARK
C461	1-126-964-11	ELECT	10MF	20%	50V (KV-35V68)
C478	1-126-934-11	ELECT	220MF	20%	16V
C479	1-126-964-11	ELECT	10MF	20%	50V (KV-35V68 ONLY)
C501	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C502	1-126-959-11	ELECT	0.47MF	20%	50V
C503	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C504	1-102-212-00	CERAMIC	820PF	10%	500V
C505	1-102-002-00	CERAMIC	680PF	10%	500V
C506	1-106-383-00	MYLAR	0.047MF	10%	200V
C507 ⚠	1-162-116-00	CERAMIC	680PF	10%	2KV
C508	1-102-244-00	CERAMIC	220PF	10%	500V
C509	1-162-116-00	CERAMIC	680PF	10%	2KV
C510	1-137-150-11	MYLAR	0.01MF	10%	100V
C511 ⚠	1-115-460-11	FILM	0.022MF	3%	1.2KV
C513 ⚠	1-130-895-00	FILM	0.056MF	5%	400V (KV-32V68)
C513 ⚠	1-129-720-00	FILM	0.033MF	5%	630V (KV-35V68)
C514 ⚠	1-104-844-11	FILM	0.62MF	5%	200V (KV-32V68)
C514 ⚠	1-136-540-11	FILM	0.82MF	5%	200V (KV-35V68)
C515	1-106-343-00	MYLAR	0.001MF	10%	100V
C516	1-115-461-11	FILM	2MF	5%	200V
C517	1-107-649-11	ELECT	2.2MF	20%	250V
C518	1-106-395-00	MYLAR	0.15MF	10%	200V
C519	1-162-815-11	CERAMIC	47PF	5%	500V
C520	1-164-645-11	CERAMIC	1000PF	10%	500V (KV-32V68)
C520	1-101-821-00	CERAMIC	0.0022MF		500V (KV-35V68)
C521	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V (KV-32V68)
C521	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V (KV-35V68)
C522	1-126-960-11	ELECT	1MF	20%	50V
C525	1-102-244-00	CERAMIC	220PF	10%	500V
C526	1-107-662-11	ELECT	22MF	20%	250V
C527	1-162-116-00	CERAMIC	680PF	10%	2KV
C528	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C529	1-128-551-11	ELECT	22MF	20%	25V
C530	1-137-366-11	FILM	0.0022MF	5%	50V
C531	1-126-965-11	ELECT	22MF	20%	50V
C532	1-126-965-11	ELECT	22MF	20%	50V
C534	1-126-967-11	ELECT	47MF	20%	50V
C537	1-126-941-11	ELECT	470MF	20%	25V (KV-32V68)
C537	1-126-942-61	ELECT	1000MF	20%	25V (KV-35V68)
C539 ⚠	1-126-935-11	ELECT	470MF	20%	16V (KV-32V68)
C539 ⚠	1-126-942-61	ELECT	1000MF	20%	25V (KV-35V68)
C540	1-123-024-21	ELECT	33MF		160V
C541	1-128-560-11	ELECT	22MF	20%	100V
C542	1-106-383-00	MYLAR	0.047MF	10%	200V (KV-35V68 ONLY)
C545	1-106-387-00	MYLAR	0.068MF	10%	200V
C546	1-106-343-00	MYLAR	0.001MF	10%	100V
C547	1-106-343-00	MYLAR	0.001MF	10%	100V
C551	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C561	1-126-967-11	ELECT	47MF	20%	50V
C563	1-126-934-11	ELECT	220MF	20%	10V
C564	1-126-960-11	ELECT	1MF	20%	50V
C565	1-126-969-11	ELECT	220MF	20%	50V
C566	1-104-664-11	ELECT	47MF	20%	25V
C568	1-136-169-00	FILM	0.22MF	5%	50V
C571	1-104-664-11	ELECT	47MF	20%	25V
C1002	1-126-964-11	ELECT	10MF	20%	50V
C1101	1-126-768-11	ELECT	2200MF	20%	16V
C1103	1-126-965-11	ELECT	22MF	20%	50V
C1104	1-104-664-11	ELECT	47MF	20%	16V
C1105	1-104-664-11	ELECT	47MF	20%	16V
C1106	1-126-964-11	ELECT	10MF	20%	50V
C1107	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1108	1-126-960-11	ELECT	1MF	20%	50V
C1109	1-126-964-11	ELECT	10MF	20%	50V
C1110	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C1111	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C1112	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C1351	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1352	1-126-933-11	ELECT	100MF	20%	16V
C1353	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C1354	1-216-295-91	SHORT			
C1501	1-115-462-11	FILM	0.12MF	5%	200V (KV-32V68 ONLY)

CONNECTOR

CN106	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P
CN270	1-573-298-11	CONNECTOR, BOARD TO BOARD 20P
CN271	1-573-978-21	CONNECTOR, BOARD TO BOARD 11P
CN351	* 1-564-509-11	PLUG, CONNECTOR 6P
CN461	* 1-564-508-11	PLUG, CONNECTOR 5P
CN501	* 1-580-798-11	CONNECTOR PIN (DY) 6P
CN503	* 1-564-508-11	PLUG, CONNECTOR 5P
CN642	* 1-564-506-11	PLUG, CONNECTOR 3P
CN1001	* 1-564-512-11	PLUG, CONNECTOR 9P
CN1101	1-573-298-11	CONNECTOR, BOARD TO BOARD 20P

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Note: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

REF. NO.	PART NO.	DESCRIPTION	REMARK
CN1231	* 1-564-511-11	PLUG, CONNECTOR 8P	
CN1641	* 1-564-515-11	PLUG, CONNECTOR 12P	
CN1801	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN1802	* 1-564-507-11	PLUG, CONNECTOR 4P	
CN1803	* 1-564-512-11	PLUG, CONNECTOR 9P	
CN1941	* 1-564-508-11	PLUG, CONNECTOR 5P	(KV-32V68)
CN1941	* 1-564-511-11	PLUG, CONNECTOR 8P	(KV-35V68)
CN3001	1-573-298-11	CONNECTOR, BOARD TO BOARD 20P	
	DIODE		
D001	8-719-991-33	DIODE 1SS133T-77	
D002	8-719-109-89	DIODE RD5.6ESB2	
D003	8-719-991-33	DIODE 1SS133T-77	
D004	8-719-110-17	DIODE RD10ESB2	
D007	8-719-110-17	DIODE RD10ESB2	
D008	8-719-110-17	DIODE RD10ESB2	
D011	8-719-983-20	DIODE MTZJ-T-77-4.3C	
D014	8-719-991-33	DIODE 1SS133T-77	
D015	8-719-991-33	DIODE 1SS133T-77	
D353	8-719-991-33	DIODE 1SS133T-77	
D356	8-719-991-33	DIODE 1SS133T-77	
D360	8-719-110-17	DIODE RD10ESB2	
D362	8-719-991-33	DIODE 1SS133T-77	
D368	8-719-991-33	DIODE 1SS133T-77	
D462	8-719-991-33	DIODE 1SS133T-77	
D501	8-719-109-89	DIODE RD5.6ESB2	
D502	8-719-945-80	DIODE ERC06-15S	
D503	8-719-945-80	DIODE ERC06-15S	
D504	8-719-900-26	DIODE ERD29-08J	
D505	8-719-908-03	DIODE GP08D	
D506	8-719-908-03	DIODE GP08D	
D507	8-719-991-33	DIODE 1SS133T-77	
D515	8-719-302-43	DIODE EL1Z	
D516	8-719-991-33	DIODE 1SS133T-77	
D518	8-719-991-33	DIODE 1SS133T-77	
D519 ⚠	8-719-302-43	DIODE EL1Z	
D520	8-719-991-33	DIODE 1SS133T-77	
D521	8-719-921-63	DIODE MTZJ-7.5B	
D530	8-719-979-85	DIODE EGP20G	
D531	8-719-979-85	DIODE EGP20G	
D534	8-719-302-43	DIODE EL1Z	
D536	8-719-908-03	DIODE GP08D	
D561	8-719-908-03	DIODE GP08D	
D562	8-719-991-33	DIODE 1SS133T-77	
D1102	8-719-982-24	DIODE MTZJ-33A	
D1103	8-719-109-89	DIODE RD5.6ESB2	
D1263	8-719-110-17	DIODE RD10ESB2	
D1264	8-719-110-17	DIODE RD10ESB2	

REF. NO.	PART NO.	DESCRIPTION		REMARK
	FERRITE BEAD			
FB501	1-410-396-41	FERRITE	0.45UH	
FB502	1-410-397-21	FERRITE	1.1UH	
FB503	1-410-397-21	FERRITE	1.1UH	
	IC			
IC001	8-752-897-19	IC CXP85848A-012S		
IC002	8-759-562-42	IC CAT24WC08J-TE13		
IC351	8-752-082-73	IC CXA2095S		
IC501	8-759-700-07	IC NJM2903M		
IC561	8-759-980-58	IC TDA8172		
	CHIP CONDUCTOR			
JR001	1-216-295-91	SHORT		
JR200	1-216-295-91	SHORT		
JR201	1-216-295-91	SHORT		
JR202	1-216-295-91	SHORT		
JR501	1-216-295-91	SHORT		
JR4120	1-216-29591	SHORT		
	COIL			
L001	1-408-421-00	INDUCTOR	100UH	
L002	1-408-421-00	INDUCTOR	100UH	
L003	1-410-470-11	INDUCTOR	10UH	
L004	1-410-470-11	INDUCTOR	10UH	
L352	1-412-545-11	INDUCTOR	470UH	
L461	1-408-612-31	INDUCTOR	56UH	(KV-32V68)
L461	1-408-617-31	INDUCTOR	180UH	(KV-35V68)
L501 ⚠	1-411-976-11	COIL, HORIZONTAL LINEARITY		
L502	1-412-552-11	INDUCTOR	2.2MMH	
L503	1-406-677-11	INDUCTOR	10MMH	
L511	1-406-607-41	INDUCTOR	15MMH	
L517	1-412-552-11	INDUCTOR	2.2MMH	
L541	1-406-677-11	INDUCTOR	10MMH	(KV-35V68 ONLY)
L1101	1-408-421-00	INDUCTOR	100UH	
L1102	1-410-470-11	INDUCTOR	10UH	
	TRANSISTOR			
Q001	8-729-216-22	TRANSISTOR 2SA1162-G		
Q002	8-729-422-27	TRANSISTOR 2SD601A-Q		
Q003	8-729-422-27	TRANSISTOR 2SD601A-Q		
Q004	8-729-216-22	TRANSISTOR 2SA1162-G		
Q010	8-729-422-27	TRANSISTOR 2SD601A-Q		
Q011	8-729-422-27	TRANSISTOR 2SD601A-Q		
Q012	8-729-422-27	TRANSISTOR 2SD601A-Q		
Q013	8-729-422-27	TRANSISTOR 2SD601A-Q		
Q014	8-729-422-27	TRANSISTOR 2SD601A-Q		
Q015	8-729-422-27	TRANSISTOR 2SD601A-Q		
Q016	8-729-422-27	TRANSISTOR 2SD601A-Q		

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Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION	REMARK
Q017	8-729-216-22	TRANSISTOR 2SA1162-G	
Q301	8-729-216-22	TRANSISTOR 2SA1162-G	
Q302	8-729-216-22	TRANSISTOR 2SA1162-G	
Q303	8-729-216-22	TRANSISTOR 2SA1162-G	
Q354	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q356	8-729-216-22	TRANSISTOR 2SA1162-G	
Q357	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q358	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q501	8-729-140-50	TRANSISTOR 2SC3209LK	
Q502 ⚠	8-729-035-75	TRANSISTOR 2SC5148 (LBSONY)	
Q511 ⚠	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q512 ⚠	8-729-809-29	TRANSISTOR 2SC4159-E	
Q551	8-729-216-22	TRANSISTOR 2SA1162-G	
Q552	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q561	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q562	8-729-422-27	TRANSISTOR 2SD601A-Q	
Q563	8-729-105-08	TRANSISTOR 2SA1330-06	
Q1102	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1103	8-729-422-27	TRANSISTOR 2SD601A-Q	

RESISTOR

REF. NO.	PART NO.	DESCRIPTION			REMARK
R001	1-216-045-00	RES, CHIP	680	5%	1/10W
R002	1-247-815-91	CARBON	220	5%	1/4W
R003	1-216-097-91	RES, CHIP	100K	5%	1/10W
R004	1-216-121-91	RES, CHIP	1M	5%	1/10W
R006	1-247-815-91	CARBON	220	5%	1/4W
R007	1-216-073-00	RES, CHIP	10K	5%	1/10W
R008	1-247-815-91	CARBON	220	5%	1/4W
R009	1-216-073-00	RES, CHIP	10K	5%	1/10W
R010	1-216-037-00	RES, CHIP	330	5%	1/10W
R011	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R012	1-216-033-00	RES, CHIP	220	5%	1/10W
R013	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R014	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R015	1-216-073-00	RES, CHIP	10K	5%	1/10W
R016	1-216-073-00	RES, CHIP	10K	5%	1/10W
R019	1-249-425-11	CARBON	4.7K	5%	1/4W
R020	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R021	1-216-033-00	RES, CHIP	220	5%	1/10W
R022	1-249-429-11	CARBON	10K	5%	1/4W
R023	1-216-089-91	RES, CHIP	47K	5%	1/10W
R024 ⚠	1-249-381-11	CARBON	1	5%	1/4W F
R025	1-163-010-11	CERAMIC	0.0012MF	10%	50V
R026	1-163-038-91	CERAMIC	0.1MF		25V
R027 ⚠	1-249-389-11	CARBON	4.7	5%	1/4W F
R028	1-249-417-11	CARBON	1K	5%	1/4W
R029	1-216-025-91	RES, CHIP	100	5%	1/10W
R030	1-249-425-11	CARBON	4.7K	5%	1/4W
R031	1-247-815-91	CARBON	220	5%	1/4W
R032	1-247-815-91	CARBON	220	5%	1/4W
R036	1-216-049-91	RES, CHIP	1K	5%	1/10W
R037	1-216-049-91	RES, CHIP	1K	5%	1/10W
R038	1-216-049-91	RES, CHIP	1K	5%	1/10W
R039	1-247-807-31	CARBON	100	5%	1/4W
R040	1-247-815-91	CARBON	220	5%	1/4W
R041	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R042	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R044	1-216-049-91	RES, CHIP	1K	5%	1/10W
R045	1-247-815-91	CARBON	220	5%	1/4W
R046	1-247-815-91	CARBON	220	5%	1/4W
R047	1-249-417-11	CARBON	1K	5%	1/4W
R048	1-249-417-11	CARBON	1K	5%	1/4W
R049	1-249-417-11	CARBON	1K	5%	1/4W
R052	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R053	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R054	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R055	1-216-097-91	RES, CHIP	100K	5%	1/10W
R056	1-216-033-00	RES, CHIP	220	5%	1/10W
R057	1-249-417-11	CARBON	1K	5%	1/4W
R058	1-216-033-00	RES, CHIP	220	5%	1/10W
R064	1-216-033-00	RES, CHIP	220	5%	1/10W
R065	1-216-033-00	RES, CHIP	220	5%	1/10W
R066	1-216-033-00	RES, CHIP	220	5%	1/10W
R067	1-216-041-00	RES, CHIP	470	5%	1/10W
R068	1-247-815-91	CARBON	220	5%	1/4W
R069	1-216-073-00	RES, CHIP	10K	5%	1/10W (KV-35V68 ONLY)
R070	1-249-421-11	CARBON	2.2K	5%	1/4W
R071	1-247-815-91	CARBON	220	5%	1/4W
R072	1-216-033-00	RES, CHIP	220	5%	1/10W
R073	1-216-033-00	RES, CHIP	220	5%	1/10W
R074	1-216-033-00	RES, CHIP	220	5%	1/10W
R075	1-216-033-00	RES, CHIP	220	5%	1/10W
R076	1-216-033-00	RES, CHIP	220	5%	1/10W
R077	1-216-033-00	RES, CHIP	220	5%	1/10W
R078	1-249-417-11	CARBON	1K	5%	1/4W
R079	1-216-033-00	RES, CHIP	220	5%	1/10W
R080	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R081	1-216-025-91	RES, CHIP	100	5%	1/10W
R082	1-216-025-91	RES, CHIP	100	5%	1/10W
R083	1-249-429-11	CARBON	10K	5%	1/4W
R084	1-216-049-91	RES, CHIP	1K	5%	1/10W
R085	1-216-073-00	RES, CHIP	10K	5%	1/10W (KV-35V68 ONLY)
R086	1-247-807-31	CARBON	100	5%	1/4W
R087	1-247-815-91	CARBON	220	5%	1/4W
R088	1-216-033-00	RES, CHIP	220	5%	1/10W
R089	1-216-033-00	RES, CHIP	220	5%	1/10W
R090	1-216-033-00	RES, CHIP	220	5%	1/10W
R091	1-216-033-00	RES, CHIP	220	5%	1/10W

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R092	1-249-429-11	CARBON	10K	5%	1/4W
R093 ⚠	1-249-387-11	CARBON	3.3	5%	1/4W F
R094 ⚠	1-249-381-11	CARBON	1	5%	1/4W F
R095	1-247-807-31	CARBON	100	5%	1/4W
R096	1-216-351-00	METAL OXIDE	1.5	5%	1W F
R097	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R099	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R101 ⚠	1-249-381-11	CARBON	1	5%	1/4W F
R131	1-216-035-00	RES, CHIP	270	5%	1/10W
R132	1-216-115-00	RES, CHIP	560K	5%	1/10W
R133	1-216-039-00	RES, CHIP	390	5%	1/10W
R135	1-216-073-00	RES, CHIP	10K	5%	1/10W
R136	1-216-073-00	RES, CHIP	10K	5%	1/10W
R137	1-216-049-91	RES, CHIP	1K	5%	1/10W
R353	1-208-788-11	RES, CHIP	1.8K	0.50%	1/10W
R354	1-216-077-00	RES, CHIP	15K	5%	1/10W
R355	1-216-033-00	RES, CHIP	220	5%	1/10W
R356	1-216-033-00	RES, CHIP	220	5%	1/10W
R358	1-247-815-91	CARBON	220	5%	1/4W
R359	1-247-815-91	CARBON	220	5%	1/4W
R360	1-247-815-91	CARBON	220	5%	1/4W
R361	1-216-025-91	RES, CHIP	100	5%	1/10W
R362	1-216-025-91	RES, CHIP	100	5%	1/10W
R363	1-216-025-91	RES, CHIP	100	5%	1/10W
R364	1-216-101-00	RES, CHIP	150K	5%	1/10W
R365	1-216-101-00	RES, CHIP	150K	5%	1/10W (KV-32V68)
R365	1-216-097-91	RES, CHIP	100K	5%	1/10W (KV-35V68)
R366	1-216-089-91	RES, CHIP	47K	5%	1/10W
R367	1-216-097-91	RES, CHIP	100K	5%	1/10W
R368	1-249-441-11	CARBON	100K	5%	1/4W
R369	1-216-097-91	RES, CHIP	100K	5%	1/10W
R370	1-249-417-11	CARBON	1K	5%	1/4W
R371	1-216-053-00	RES, CHIP	1.5K	5%	1/10W
R372	1-216-113-00	RES, CHIP	470K	5%	1/10W
R373	1-216-073-00	RES, CHIP	10K	5%	1/10W
R374	1-216-125-00	RES, CHIP	1.5M	5%	1/10W (KV-32V68)
R374	1-216-121-91	RES, CHIP	1M	5%	1/10W (KV-35V68)
R375	1-216-025-91	RES, CHIP	100	5%	1/10W
R376	1-216-073-00	RES, CHIP	10K	5%	1/10W
R379	1-216-033-00	RES, CHIP	220	5%	1/10W
R380	1-247-815-91	CARBON	220	5%	1/4W
R381	1-247-815-91	CARBON	220	5%	1/4W
R382	1-216-033-00	RES, CHIP	220	5%	1/10W
R383	1-216-049-91	RES, CHIP	1K	5%	1/10W
R384	1-216-109-00	RES, CHIP	330K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R385	1-249-422-11	CARBON	2.7K	5%	1/4W
R386	1-216-049-91	RES, CHIP	1K	5%	1/10W
R387	1-216-049-91	RES, CHIP	1K	5%	1/10W
R388	1-216-089-91	RES, CHIP	47K	5%	1/10W
R389	1-216-067-00	RES, CHIP	5.6K	5%	1/10W
R390	1-216-035-00	RES, CHIP	270	5%	1/10W
R391	1-208-810-11	RES, CHIP	15K	0.50%	1/10W
R392	1-216-025-91	RES, CHIP	100	5%	1/10W
R393	1-216-043-91	RES, CHIP	560	5%	1/10W
R394	1-216-059-00	RES, CHIP	2.7K	5%	1/10W
R395	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R396	1-249-417-11	CARBON	1K	5%	1/4W
R397	1-249-425-11	CARBON	4.7K	5%	1/4W
R466	1-249-382-11	CARBON	1.2	5%	1/4W F (KV-32V68 ONLY)
R501	1-216-037-00	RES, CHIP	330	5%	1/10W
R502	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R503	1-249-426-11	CARBON	5.6K	5%	1/4W F
R504 ⚠	1-215-915-11	METAL OXIDE	470	5%	3W F
R505	1-249-431-11	CARBON	15K	5%	1/4W
R506	1-215-861-00	METAL OXIDE	47	5%	1W F
R507	1-249-401-11	CARBON	47	5%	1/4W
R508	1-249-427-11	CARBON	6.8K	5%	1/4W
R509	1-247-750-11	CARBON	680	5%	1/2W F
R510 ⚠	1-215-860-11	METAL OXIDE	33	5%	1W F
R511 ⚠	1-215-885-00	METAL OXIDE	68	5%	2W F (KV-32V68)
R511 ⚠	1-215-886-11	METAL OXIDE	100	5%	2W F (KV-35V68)
R512 ⚠	1-215-911-11	METAL OXIDE	100	5%	3W F
R515	1-216-083-00	RES, CHIP	27K	5%	1/10W (KV-32V68)
R515	1-216-077-00	RES, CHIP	15K	5%	1/10W (KV-35V68)
R516	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R517	1-249-415-11	CARBON	680	5%	1/4W
R518	1-216-073-00	RES, CHIP	10K	5%	1/10W
R519	1-249-411-11	CARBON	330	5%	1/4W
R521 ⚠	1-215-915-11	METAL OXIDE	470	5%	3W F
R523	1-216-073-00	RES, CHIP	10K	5%	1/10W (KV-32V68)
R523	1-216-071-00	RES, CHIP	8.2K	5%	1/10W (KV-35V68)
R524	1-249-429-11	CARBON	10K	5%	1/4W
R525	1-216-071-00	RES, CHIP	8.2K	5%	1/10W
R528	1-216-081-00	RES, CHIP	22K	5%	1/10W
R529	1-208-814-91	RES, CHIP	22K	0.50%	1/10W (KV-32V68)
R529	1-208-812-11	RES, CHIP	18K	0.50%	1/10W (KV-35V68)

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Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF. NO.	PART NO.	DESCRIPTION			REMARK
⧓ R530 ⚠	1-208-808-11	RES, CHIP	12K	0.50% 1/10W	
⧓ R531 ⚠	1-208-826-11	RES, CHIP	68K	0.50% 1/10W (KV-32V68)	
⧓ R531 ⚠	1-208-838-91	RES, CHIP	220K	0.50% 1/10W (KV-35V68)	
R532	1-208-760-11	RES, CHIP	120	0.50% 1/10W	
R533 ⚠	1-215-902-11	METAL OXIDE	47K	5% 1W (KV-32V68)	F
R533 ⚠	1-215-878-00	METAL OXIDE	33K	5% 1W (KV-35V68)	F
R535	1-216-101-00	RES, CHIP	150K	5% 1/10W (KV-32V68)	
R535	1-216-103-00	RES, CHIP	180K	5% 1/10W (KV-35V68)	
R536 ⚠	1-249-377-11	CARBON	0.47	5% 1/4W	F
R537 ⚠	1-249-377-11	CARBON	0.47	5% 1/4W	F
R538	1-247-887-00	CARBON	220K	5% 1/4W	
R541	1-249-377-11	CARBON	0.47	5% 1/4W (KV-35V68 ONLY)	F
R542	1-249-397-11	CARBON	22	5% 1/4W (KV-35V68 ONLY)	F
R543 ⚠	1-249-377-11	CARBON	0.47	5% 1/4W	F
R546	1-215-453-00	METAL	22K	1% 1/4W (KV-32V68)	
R546	1-215-451-00	METAL	18K	1% 1/4W (KV-35V68)	
R547	1-215-457-00	METAL	33K	1% 1/4W	
R549	1-215-437-00	METAL	4.7K	1% 1/4W	
R550 ⚠	1-249-377-11	CARBON	0.47	5% 1/4W	F
R551 ⚠	1-215-873-00	METAL OXIDE	4.7K	5% 1W	F
R552	1-216-069-00	RES, CHIP	6.8K	5% 1/10W	
R553 ⚠	1-249-377-11	CARBON	0.47	5% 1/4W	F
R554	1-216-057-00	RES, CHIP	2.2K	5% 1/10W	
R561	1-216-073-00	RES, CHIP	10K	5% 1/10W	
R563 ⚠	1-216-351-00	METAL OXIDE	1.5	5% 1W	F
R564	1-249-393-11	CARBON	10	5% 1/4W	
R565 ⚠	1-215-890-11	METAL OXIDE	470	5% 2W	F
R566	1-216-073-00	RES, CHIP	10K	5% 1/10W	
R567 ⚠	1-249-385-11	CARBON	2.2	5% 1/4W	F
R568	1-216-073-00	RES, CHIP	10K	5% 1/10W	
R569	1-216-073-00	RES, CHIP	10K	5% 1/10W	
R570	1-216-097-91	RES, CHIP	100K	5% 1/10W	
R571	1-216-081-00	RES, CHIP	22K	5% 1/10W	
R572	1-216-081-00	RES, CHIP	22K	5% 1/10W	
R573	1-216-097-91	RES, CHIP	100K	5% 1/10W	
R574 ⚠	1-216-365-00	METAL OXIDE	0.47	5% 2W	F
R575	1-216-113-00	RES, CHIP	470K	5% 1/10W	
R576	1-216-073-00	RES, CHIP	10K	5% 1/10W	
R577	1-216-097-91	RES, CHIP	100K	5% 1/10W	
R578	1-208-784-11	RES, CHIP	1.2K	0.50% 1/10W	
R579	1-208-842-11	RES, CHIP	330K	0.50% 1/10W	
R580	1-249-441-11	CARBON	100K	5% 1/4W	
R1101	1-216-049-91	RES, CHIP	1K	5% 1/10W	
R1102	1-215-900-11	METAL OXIDE	22K	5% 2W	F
R1103	1-216-051-00	RES, CHIP	1.2K	5% 1/10W	
R1104	1-216-083-00	RES, CHIP	27K	5% 1/10W	
R1105	1-216-689-11	RES, CHIP	39K	5% 1/10W	
R1106	1-216-049-91	RES, CHIP	1K	5% 1/10W	
R1107	1-216-065-91	RES, CHIP	4.7K	5% 1/10W	
R1108	1-216-073-00	RES, CHIP	10K	5% 1/10W	
R1109	1-216-019-00	RES, CHIP	56	5% 1/10W	
R1110	1-216-019-00	RES, CHIP	56	5% 1/10W	
R1111	1-216-019-00	RES, CHIP	56	5% 1/10W	
R1115	1-216-045-00	RES, CHIP	680	5% 1/10W	
R1117	1-249-425-11	CARBON	4.7K	5% 1/4W	
R1118	1-249-425-11	CARBON	4.7K	5% 1/4W	
R1120	1-216-057-00	RES, CHIP	2.2K	5% 1/10W	
R1121	1-216-035-00	RES, CHIP	270	5% 1/10W	
R1122	1-216-115-00	RES, CHIP	560K	5% 1/10W	
R1123	1-216-039-00	RES, CHIP	390	5% 1/10W	
R1125	1-216-057-00	RES, CHIP	2.2K	5% 1/10W	
R1126	1-216-035-00	RES, CHIP	270	5% 1/10W	
R1127	1-216-115-00	RES, CHIP	560K	5% 1/10W	
R1128	1-216-039-00	RES, CHIP	390	5% 1/10W	
R1130	1-216-057-00	RES, CHIP	2.2K	5% 1/10W	
R1351	1-247-815-91	CARBON	220	5% 1/4W	
R1352	1-247-815-91	CARBON	220	5% 1/4W	
R1353	1-247-815-91	CARBON	220	5% 1/4W	
R1354	1-216-033-00	RES, CHIP	220	5% 1/10W	
R1355	1-216-025-91	RES, CHIP	100	5% 1/10W	
R1356	1-216-025-91	RES, CHIP	100	5% 1/10W	
R1357	1-216-025-91	RES, CHIP	100	5% 1/10W	
R1358	1-247-807-31	CARBON	100	5% 1/4W	
R1359	1-216-025-91	RES, CHIP	100	5% 1/10W	
R1360	1-216-069-00	RES, CHIP	6.8K	5% 1/10W	
R1361	1-216-065-91	RES, CHIP	4.7K	5% 1/10W	
R1362	1-216-295-91	SHORT			

SWITCH

S501	1-572-707-11	SWITCH, LEVER

TRANSFORMER

T501	1-437-210-11	TRANSFORMER, HORIZONTAL DRIVE
T502 ⚠	1-424-545-11	TRANSFORMER, FERRITE (PMT) (KV-32V68)
T502 ⚠	1-429-408-11	TRANSFORMER, FERRITE (PMT) (KV-35V68)
T503 ⚠	1-453-207-11	FBT ASSY, NX-2609//X4C (KV-32V68)
T503 ⚠	X-4034-797-1	FBT ASSY, NX-3005//J1C (KV-35V68)
T504	1-413-059-00	TRANSFORMER, FERRITE (DFT) (KV-35V68 ONLY)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

A AV

REF. NO.	PART NO.	DESCRIPTION			REMARK
	TUNER				
TU102 ⚠	8-598-431-00	FSS TUNER, BTF-WA411			
	CRYSTAL				
X001	1-578-774-11	VIBRATOR, CRYSTAL			
X353	1-567-505-11	OSCILLATOR, CRYSTAL			
X354	1-577-611-11	OSCILALTOR, CERAMIC			
AV					
	***A-1298-708-A**	**AV BOARD, COMPLETE**			
	CAPACITOR				
C101	1-126-960-11	ELECT	1MF	20%	50V
C102	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C103	1-126-965-11	ELECT	22MF	20%	50V
C104	1-126-964-11	ELECT	10MF	20%	50V
C106	1-104-664-11	ELECT	47MF	20%	25V
C108	1-126-933-11	ELECT	100MF	20%	16V
C109	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C110	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C111	1-126-960-11	ELECT	1MF	20%	50V
C113	1-126-934-11	ELECT	220MF	20%	16V
C115	1-104-664-11	ELECT	47MF	20%	16V
C149	1-104-664-11	ELECT	47MF	20%	25V
C1904	1-102-129-00	CERAMIC	0.01MF	10%	50V
C1905	1-126-964-11	ELECT	10MF	20%	50V
C1906	1-102-129-00	CERAMIC	0.01MF	10%	50V
C1907	1-126-964-11	ELECT	10MF	20%	50V
C1908	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1909	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
	CONNECTOR				
CN101	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P			
CN102	1-573-979-21	CONNECTOR, BOARD TO BOARD 11P			
CN103	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN106	* 1-564-506-11	PLUG, CONNECTOR 3P			
	DIODE				
D101	8-719-109-89	DIODE RD5.6ESB2			
D102	8-719-982-24	DIODE MTZJ-33A			
D103	8-719-991-33	DIODE 1SS133T-77			
D104	8-719-991-33	DIODE 1SS133T-77			
D105	8-719-991-33	DIODE 1SS133T-77			
D106	8-719-991-33	DIODE 1SS133T-77			
	IC				
IC101	8-759-394-36	IC BA09T			
IC1901	8-752-058-68	IC CXA1315M			
IC1902	8-759-470-63	IC NJM2145M-TE2			

REF. NO.	PART NO.	DESCRIPTION			REMARK
	CHIP CONDUCTOR				
JR103	1-216-295-91	SHORT			
	COIL				
L102	1-410-470-11	INDUCTOR	10UH		
L105	1-408-421-00	INDUCTOR	100UH		
	TRANSISTOR				
Q101	8-729-119-78	TRANSISTOR	2SC2785-HFE		
Q103	8-729-216-22	TRANSISTOR	2SA1162-G		
Q104	8-729-216-22	TRANSISTOR	2SA1162-G		
Q105	8-729-216-22	TRANSISTOR	2SA1162-G		
Q106	8-729-422-27	TRANSISTOR	2SD601A-Q		
Q1901	8-729-216-22	TRANSISTOR	2SA1162-G		
Q1902	8-729-216-22	TRANSISTOR	2SA1162-G		
	RESISTOR				
R101	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R102	1-216-083-00	RES, CHIP	27K	5%	1/10W
R103	1-216-689-11	RES, CHIP	39K	5%	1/10W
R104	1-216-045-00	RES, CHIP	680	5%	1/10W
R105	1-215-889-00	METAL OXIDE	330	5%	2W F
R106	1-216-081-00	RES, CHIP	22K	5%	1/10W
R107	1-216-081-00	RES, CHIP	22K	5%	1/10W
R108	1-216-081-00	RES, CHIP	22K	5%	1/10W
R109	1-216-081-00	RES, CHIP	22K	5%	1/10W
R112	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R113	1-216-097-91	RES, CHIP	100K	5%	1/10W
R114	1-216-121-91	RES, CHIP	1M	5%	1/10W
R115	1-216-073-00	RES, CHIP	10K	5%	1/10W
R116	1-216-073-00	RES, CHIP	10K	5%	1/10W
R117	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R118	1-216-295-91	SHORT			
R121	1-216-049-91	RES, CHIP	1K	5%	1/10W
R125	1-216-043-91	RES, CHIP	560	5%	1/10W
R126	1-216-045-00	RES, CHIP	680	5%	1/10W
R1904	1-216-073-00	RES, CHIP	10K	5%	1/10W
R1905	1-216-073-00	RES, CHIP	10K	5%	1/10W
R2904	1-216-033-00	RES, CHIP	220	5%	1/10W
R2905	1-216-033-00	RES, CHIP	220	5%	1/10W
R2909	1-216-073-00	RES, CHIP	10K	5%	1/10W
R2910	1-216-073-00	RES, CHIP	10K	5%	1/10W
R2912	1-216-073-00	RES, CHIP	10K	5%	1/10W
R2913	1-216-073-00	RES, CHIP	10K	5%	1/10W
R2914	1-216-073-00	RES, CHIP	10K	5%	1/10W
	TUNER				
TU101 ⚠	8-598-430-00	FSS TUNER, BTF-FA401			

B

B

*A-1135-949-A B BOARD, COMPLETE

CAPACITOR

REF. NO.	PART NO.	DESCRIPTION			REMARK
C3501	1-104-664-11	ELECT	47MF	20%	25V
C3502	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C3503	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3504	1-126-964-11	ELECT	10MF	20%	50V
C3505	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C3506	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3507	1-126-963-11	ELECT	4.7MF	20%	50V
C3508	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3509	1-126-961-11	ELECT	2.2MF	20%	50V
C3510	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C3511	1-126-960-11	ELECT	1MF	20%	50V
C3512	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3513	1-163-131-00	CERAMIC CHIP	390PF	5%	50V
C3514	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C3515	1-126-963-11	ELECT	4.7MF	20%	50V
C3516	1-163-089-00	CERAMIC CHIP	6PF	0.5PF	50V
C3517	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3518	1-126-941-11	ELECT	470MF	20%	25V
C3519	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3520	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3521	1-104-664-11	ELECT	47MF	20%	25V
C3522	1-126-964-11	ELECT	10MF	20%	50V
C3523	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3524	1-104-664-11	ELECT	47MF	20%	25V
C3525	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3526	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3527	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3528	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C3529	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3532	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3533	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3534	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3535	1-104-664-11	ELECT	47MF	20%	25V
C3536	1-126-964-11	ELECT	10MF	20%	50V
C3537	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C3538	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3539	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3540	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C3541	1-104-664-11	ELECT	47MF	20%	25V
C3542	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3543	1-104-664-11	ELECT	47MF	20%	25V
C3544	1-104-664-11	ELECT	47MF	20%	25V
C3545	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3548	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3549	1-126-964-11	ELECT	10MF	20%	50V
C3550	1-104-664-11	ELECT	47MF	20%	25V
C3551	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C3553	1-126-941-11	ELECT	470MF	20%	25V
C3556	1-128-551-11	ELECT	22MF	20%	25V

CONNECTOR

CN3502	1-573-978-21	CONNECTOR, BOARD TO BOARD 11P	
CN3561	*1-691-616-21	CONNECTOR, BOARD TO BOARD 15P	

FILTER

FL3501	1-239-847-11	FILTER, LOW PASS	
FL3502	1-239-847-11	FILTER, LOW PASS	
FL3503	1-239-847-11	FILTER, LOW PASS	

IC

IC3501	8-759-065-82	IC MM1093ND	
IC3502	8-752-385-80	IC CXD2073S	
IC3503	8-759-231-53	IC TA7805S	

COIL

L3501	1-410-470-11	INDUCTOR	10UH
L3502	1-410-466-41	INDUCTOR	4.7UH
L3503	1-410-470-11	INDUCTOR	10UH
L3504	1-410-470-11	INDUCTOR	10UH
L3505	1-410-470-11	INDUCTOR	10UH

TRANSISTOR

Q3501	8-729-422-27	TRANSISTOR	2SD601A-Q
Q3502	8-729-216-22	TRANSISTOR	2SA1162-G
Q3503	8-729-422-27	TRANSISTOR	2SD601A-Q
Q3504	8-729-216-22	TRANSISTOR	2SA1162-G
Q3505	8-729-422-27	TRANSISTOR	2SD601A-Q
Q3506	8-729-216-22	TRANSISTOR	2SA1162-G
Q3507	8-729-216-22	TRANSISTOR	2SA1162-G
Q3509	8-729-216-22	TRANSISTOR	2SA1162-G
Q3510	8-729-422-27	TRANSISTOR	2SD601A-Q
Q3516	8-729-216-22	TRANSISTOR	2SA1162-G
Q3555	8-729-216-22	TRANSISTOR	2SA1162-G

RESISTOR

R3501	1-216-091-00	RES, CHIP	56K	5%	1/10W
R3502	1-216-081-00	RES, CHIP	22K	5%	1/10W
R3503	1-216-009-91	RES, CHIP	22	5%	1/10W
R3504	1-216-029-00	RES, CHIP	150	5%	1/10W
R3505	1-216-037-00	RES, CHIP	330	5%	1/10W
R3506	1-216-035-00	RES, CHIP	270	5%	1/10W
R3507	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3508	1-216-043-91	RES, CHIP	560	5%	1/10W
R3509	1-216-075-00	RES, CHIP	12K	5%	1/10W
R3510	1-216-049-91	RES, CHIP	1K	5%	1/10W

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

B C

REF. NO.	PART NO.	DESCRIPTION			REMARK
R3511	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R3512	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R3513	1-216-041-00	RES, CHIP	470	5%	1/10W
R3514	1-216-121-91	RES, CHIP	1M	5%	1/10W
R3515	1-216-077-00	RES, CHIP	15K	5%	1/10W
R3516	1-216-037-00	RES, CHIP	330	5%	1/10W
R3517	1-216-077-00	RES, CHIP	15K	5%	1/10W
R3518	1-216-067-00	RES, CHIP	5.6K	5%	1/10W
R3520	1-208-766-11	RES, CHIP	220	0.50%	1/10W
R3521	1-208-766-11	RES, CHIP	220	0.50%	1/10W
R3522	1-208-774-11	RES, CHIP	470	0.50%	1/10W
R3523	1-208-778-11	RES, CHIP	680	0.50%	1/10W
R3524	1-208-794-11	RES, CHIP	3.3K	0.50%	1/10W
R3529	1-216-295-91	SHORT			
R3531	1-216-295-91	SHORT			
R3534	1-216-295-91	SHORT			
R3535	1-216-295-91	SHORT			
R3536	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3537	1-216-043-91	RES, CHIP	560	5%	1/10W
R3538	1-216-071-00	RES, CHIP	8.2K	5%	1/10W
R3539	1-216-089-91	RES, CHIP	47K	5%	1/10W
R3540	1-216-049-91	RES, CHIP	1K	5%	1/10W
R3541	1-216-081-00	RES, CHIP	22K	5%	1/10W
R3542	1-216-041-00	RES, CHIP	470	5%	1/10W
R3543	1-216-035-00	RES, CHIP	270	5%	1/10W
R3544	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3545	1-216-043-91	RES, CHIP	560	5%	1/10W
R3546	1-216-071-00	RES, CHIP	8.2K	5%	1/10W
R3547	1-216-089-91	RES, CHIP	47K	5%	1/10W
R3548	1-216-081-00	RES, CHIP	22K	5%	1/10W
R3549	1-216-049-91	RES, CHIP	1K	5%	1/10W
R3550	1-208-774-11	RES, CHIP	470	0.50%	1/10W
R3551	1-208-764-11	RES, CHIP	180	0.50%	1/10W
R3565	1-216-295-91	SHORT			
R3566	1-216-025-91	RES, CHIP	100	5%	1/10W
R3568	1-216-025-91	RES, CHIP	100	5%	1/10W
R3569	1-216-041-00	RES, CHIP	470	5%	1/10W
R3578	1-216-081-00	RES, CHIP	22K	5%	1/10W
R3579	1-216-081-00	RES, CHIP	22K	5%	1/10W
R3580	1-216-295-91	SHORT			
R3596	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3597	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3599	1-208-774-11	RES, CHIP	470	0.50%	1/10W

CRYSTAL

X3501	1-567-505-11	OSCILLATOR, CRYSTAL	

REF. NO.	PART NO.	DESCRIPTION			REMARK
C					
	* A-1331-837-A	C BOARD, COMPLETE (KV-32V68)			
	* A-1331-843-A	C BOARD, COMPLETE (KV-35V68)			
	4-382-854-11	SCREW (M3X10), P, SW (+)			
	CAPACITOR				
C1750	1-137-528-11	FILM	0.1MF	10%	250V
C1751	1-107-655-11	ELECT	47MF	20%	250V
C1790	1-102-129-00	CERAMIC	0.01MF	10%	50V
C1791	1-126-968-11	ELECT	100MF	20%	50V
C1792	1-102-106-00	CERAMIC	100PF	10%	50V
C1794	1-107-651-11	ELECT	4.7MF	20%	250V (KV-35V68 ONLY)
C1795	1-102-074-00	CERAMIC	0.001MF	10%	50V
C1799	1-162-114-00	CERAMIC	0.0047MF		2KV
	CONNECTOR				
CN1761	* 1-564-509-11	PLUG, CONNECTOR 6P			
CN1764	* 1-564-508-11	PLUG, CONNECTOR 5P			
CN1766	1-695-915-11	TAB (CONTACT)			
	DIODE				
D1790	8-719-991-33	DIODE 1SS133T-77			
D1791	8-719-908-03	DIODE GP08D			
D1792	8-719-908-03	DIODE GP08D (KV-35V68 ONLY)			
D1793	8-719-908-03	DIODE GP08D			
D1794	8-719-908-03	DIODE GP08D			
	IC				
IC1701	8-759-562-43	IC TDA6108JF/N1B			
	JACK				
J1761 ⚠	1-251-388-11	SOCKET, CRT			
	COIL				
L1790	1-412-537-31	INDUCTOR	100UH		
	TRANSISTOR				
Q1790	8-729-119-76	TRANSISTOR 2SA1175-HFE			
	RESISTOR				
R1750	1-247-870-11	CARBON	43K	5%	1/4W
R1763	1-260-099-11	CARBON	1K	5%	1/2W
R1764	1-247-807-31	CARBON	100	5%	1/4W
R1773	1-260-099-11	CARBON	1K	5%	1/2W
R1774	1-247-807-31	CARBON	100	5%	1/4W

C G

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R1783	1-260-099-11	CARBON	1K	5%	1/2W
R1784	1-247-807-31	CARBON	100	5%	1/4W
R1788	1-216-349-00	METAL OXIDE	1	5%	1W F
R1789	1-249-437-11	CARBON	47K	5%	1/4W
R1790	1-216-378-11	METAL OXIDE	5.6	5%	2W F (KV-32V68)
R1790	1-216-369-00	METAL OXIDE	1	5%	2W F (KV-35V68)
R1792	1-247-815-91	CARBON	220	5%	1/4W
R1793	1-247-866-11	CARBON	30K	5%	1/4W
R1794	1-260-132-11	CARBON	560K	5%	1/2W (KV-35V68 ONLY)
R1795	1-260-087-11	CARBON	100	5%	1/2W
R1796	1-216-378-11	METAL OXIDE	5.6	5%	2W (KV-32V68)
R1796	1-216-369-00	METAL OXIDE	1	5%	2W F (KV-35V68)
R1797	1-260-123-11	CARBON	100K	5%	1/2W

G

*** A-1316-421-A G BOARD, COMPLETE (KV-32V68)**
*** A-1316-420-A G BOARD, COMPLETE (KV-35V68)**

1-533-223-11 HOLDER, FUSE
4-382-854-11 SCREW (M3X10), P, SW (+)

CAPACITOR

C601	1-136-346-21	FILM	0.22MF	20%	125V (KV-35V68 ONLY)
C602	1-126-964-11	ELECT	10MF	20%	50V
C603 ⚠	1-113-903-11	CERAMIC	0.001MF	20%	250V
C604 ⚠	1-136-346-21	FILM	0.22MF	20%	125V
C605 ⚠	1-136-346-21	FILM	0.22MF	20%	125V
C606 ⚠	1-117-894-11	ELECT	560MF	20%	250V
C607 ⚠	1-117-894-11	ELECT	560MF	20%	250V
C608	1-165-127-11	CERAMIC	470PF	10%	500V
C609	1-136-175-00	FILM	0.68MF	5%	50V
C610	1-136-175-00	FILM	0.68MF	5%	50V
C611	1-136-171-00	FILM	0.33MF	5%	50V
C612	1-136-171-00	FILM	0.33MF	5%	50V
C613	1-164-646-11	CERAMIC	2200PF	10%	500V
C614	1-130-471-00	MYLAR	0.001MF	5%	50V
C615	1-129-722-00	FILM	0.047MF	5%	630V
C616 ⚠	1-113-903-11	CERAMIC	0.001MF	20%	250V
C617	1-136-169-00	FILM	0.22MF	5%	50V
C624	1-126-961-11	ELECT	2.2MF	20%	50V
C628 ⚠	1-113-924-11	CERAMIC	0.0047MF	20%	250V
C629 ⚠	1-107-656-11	ELECT	100MF	20%	250V
C630	1-130-471-00	MYLAR	0.001MF	5%	50V
C631	1-137-605-11	FILM	0.01MF	10%	250V
C632	1-130-495-00	FILM	0.1MF	5%	50V
C634	1-130-467-00	MYLAR	470PF	5%	50V
C635	1-130-475-00	MYLAR	0.0022MF	5%	50V
C636	1-126-965-11	ELECT	22MF	20%	50V
C637	1-126-942-61	ELECT	1000MF	20%	25V
C638	1-104-666-11	ELECT	220MF	20%	25V
C639	1-128-582-11	ELECT	10MF	20%	63V
C640 ⚠	1-113-924-11	CERAMIC	0.0047MF	20%	250V
C641	1-128-550-11	ELECT	2200MF	20%	50V
C642	1-130-495-00	FILM	0.1MF	5%	50V
C643	1-107-641-11	ELECT	220MF	20%	160V
C647	1-104-665-11	ELECT	100MF	20%	25V
C650	1-104-664-11	ELECT	47MF	20%	25V
C651	1-137-366-11	FILM	0.0022MF	5%	50V
C652	1-106-351-00	MYLAR	0.0022MF	99%	200V
C653	1-107-636-11	ELECT	10MF	20%	160V
C654	1-164-625-11	CERAMIC	680PF	10%	500V
C655	1-164-625-11	CERAMIC	680PF	10%	500V
C656	1-164-625-11	CERAMIC	680PF	10%	500V
C657	1-164-625-11	CERAMIC	680PF	10%	500V
C660	1-126-767-11	ELECT	1000MF	20%	16V
C690	1-164-645-11	CERAMIC	1000PF	10%	500V
C691	1-164-645-11	CERAMIC	1000PF	10%	500V

CONNECTOR

CN601	* 1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P	(KV-35V68 ONLY)
CN602	* 1-580-844-11	PIN, CONNECTOR (POWER)	
CN603	* 1-573-963-11	PIN, CONNECTOR (PC BOARD) 3P	(KV-35V68 ONLY)
CN604	* 1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	(KV-32V68 ONLY)
CN641	* 1-564-515-11	PLUG, CONNECTOR 12P	
CN643	* 1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN644	* 1-564-506-11	PLUG, CONNECTOR 3P	

DIODE

D600 ⚠	8-719-991-33	DIODE 1SS133T-77
D601	8-719-991-33	DIODE 1SS133T-77
D602 ⚠	8-719-510-53	DIODE D4SB60L
D603	8-719-052-90	DIODE D1NL40-TA2
D604	8-719-052-90	DIODE D1NL40-TA2
D605	8-719-110-49	DIODE RD18ESB2
D606	8-719-991-33	DIODE 1SS133T-77
D612	8-719-991-33	DIODE 1SS133T-77
D613	8-719-991-33	DIODE 1SS133T-77
D614	8-719-991-33	DIODE 1SS133T-77

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

G

REF. NO.	PART NO.	DESCRIPTION	REMARK
D621 ⚠	8-719-911-55	DIODE U05G	
D622 ⚠	8-719-911-55	DIODE U05G	
D623	8-719-948-45	DIODE ERA22-08	
D624	8-719-991-33	DIODE 1SS133T-77	
D626	8-719-109-88	DIODE RD5.6ESB1	
D627	8-719-510-48	DIODE D1N20R	
D628	8-719-018-84	DIODE D2S6M	
D629	8-719-063-70	DIODE D1NL20U	
D630	8-719-063-70	DIODE D1NL20U	
D641	8-719-052-92	DIODE D10SBS4F	
D642 ⚠	8-719-510-12	DIODE D10SC4M	
D643	8-719-028-45	DIODE D2L20U	
D644	8-719-028-45	DIODE D2L20U	
D645	8-719-028-45	DIODE D2L20U	
D646	8-719-028-45	DIODE D2L20U	
D647	8-719-063-70	DIODE D1NL20U	
D648	8-719-057-52	DIODE EZ0150AV1	
D649	8-719-510-02	DIODE D1NS4	
D650	8-719-510-02	DIODE D1NS4	
FUSE			
F601 ⚠	1-576-193-11	FUSE 6.3A/125V	
FERRITE BEAD			
FB601	1-410-396-41	FERRITE 0.45UH	
FB602	1-410-396-41	FERRITE 0.45UH	
FB603	1-410-396-41	FERRITE 0.45UH	
FB604	1-410-396-41	FERRITE 0.45UH	
FB605	1-410-396-41	FERRITE 0.45UH	
FB606	1-410-396-41	FERRITE 0.45UH	
FB641	1-410-397-21	FERRITE 1.1UH	
FB642	1-410-397-21	FERRITE 1.1UH	
FB645	1-410-397-21	FERRITE 1.1UH	
FB647	1-410-397-21	FERRITE 1.1UH	
IC			
IC601 ⚠	8-729-041-12	TRANSISTOR MX0841AB-F	
IC622	8-759-566-35	IC MC33269T	
IC641	8-759-198-03	IC PQ09RF21	
IC643	8-749-012-13	IC DM-58	
COIL			
L641	1-412-537-31	INDUCTOR 100UH	
L642	1-412-529-11	INDUCTOR 22UH	
TRANSISTOR			
Q621 ⚠	8-729-044-30	TRANSISTOR 2SK2845-LB102	
Q622	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q644	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q645	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q646	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q647	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q648	8-729-922-39	TRANSISTOR 2SD2144S-V	

RESISTOR

R603 ⚠	1-219-776-11	CARBON	2.2M	10%	1/2W	
R607 ⚠	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R608 ⚠	1-216-373-11	METAL OXIDE	2.2	5%	2W	F
R611 ⚠	1-216-373-11	METAL OXIDE	2.2	5%	2W	F
R612	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R613	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R614	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R615	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R618	1-249-425-11	CARBON	4.7K	5%	1/4W	
R619	1-249-425-11	CARBON	4.7K	5%	1/4W	
R620	1-249-425-11	CARBON	4.7K	5%	1/4W	
R621	1-249-429-11	CARBON	10K	5%	1/4W	
R622	1-247-863-91	CARBON	22K	5%	1/4W	
R623 ⚠	1-205-943-11	CEMENTED	1	5%	20W	
R624	1-260-131-11	CARBON	470K	5%	1/2W	
R625	1-260-131-11	CARBON	470K	5%	1/2W	
R626	1-249-425-11	CARBON	4.7K	5%	1/4W	
R627 ⚠	1-220-797-11	CEMENTED	0.47	5%	10W	
R628	1-240-205-91	CARBON	22M	5%	1/2W	
R629 ⚠	1-220-797-11	CEMENTED	0.47	5%	10W	
R632	1-247-807-31	CARBON	100	5%	1/4W	
R633	1-249-429-11	CARBON	10K	5%	1/4W	
R634	1-249-431-11	CARBON	15K	5%	1/4W	
R635	1-247-791-91	CARBON	22	5%	1/4W	
R636	1-247-815-91	CARBON	220	5%	1/4W	
R637	1-260-294-11	CARBON	1.5	5%	1/2W	
R638	1-249-413-11	CARBON	470	5%	1/4W	
R639 ⚠	1-249-383-11	CARBON	1.5	5%	1/4W	F
R640	1-215-477-00	METAL	220K	1%	1/4W	
R641	1-247-843-11	CARBON	3.3K	5%	1/4W	
R642	1-247-843-11	CARBON	3.3K	5%	1/4W	
R643	1-249-387-11	CARBON	3.3	5%	1/4W	F
R644	1-215-477-00	METAL	220K	1%	1/4W	
R645	1-249-389-11	CARBON	4.7	5%	1/4W	F
R648	1-247-887-00	CARBON	220K	5%	1/4W	
R649	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R650	1-215-397-00	METAL	100	1%	1/4W	
R651	1-215-409-00	METAL	330	1%	1/4W	
R659	1-249-429-11	CARBON	10K	5%	1/4W	
R660 ⚠	1-249-393-11	CARBON	10	5%	1/4W	F
R661	1-249-419-11	CARBON	1.5K	5%	1/4W	F
R666 ⚠	1-249-377-11	CARBON	0.47	5%	1/4W	F
R667 ⚠	1-249-377-11	CARBON	0.47	5%	1/4W	F

G HS HV K

Note:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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REF. NO.	PART NO.	DESCRIPTION			REMARK
R668 ⚠	1-249-377-11	CARBON	0.47	5%	1/4W F
R670 ⚠	1-249-377-11	CARBON	0.47	5%	1/4W F
R671 ⚠	1-249-377-11	CARBON	0.47	5%	1/4W F
R672 ⚠	1-249-377-11	CARBON	0.47	5%	1/4W F
		RELAY			
RY600 ⚠	1-755-266-11	RELAY, AC POWER			
RY601 ⚠	1-755-146-11	RELAY, AC POWER			
		TRANSFORMER			
T601 ⚠	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)			
T602 ⚠	1-426-717-11	TRANSFORMER, LINE FILTER (LFT)			
T603 ⚠	1-429-992-21	TRANSFORMER, CONVERTER (PRT)			
T605 ⚠	1-431-467-11	TRANSFORMER, CONVERTER (PIT)			
T621 ⚠	1-433-409-11	TRANSFORMER, CONVERTER			
		THERMISTOR			
THP601 ⚠	1-809-539-11	THERMISTOR, POSITIVE			
		VARISTOR			
VDR601 ⚠	1-801-074-41	VARISTOR ERZV10D271			
VDR602 ⚠	1-801-074-41	VARISTOR ERZV10D271			

HS

***A-1372-510-A HS BOARD (VAR), COMPLETE**

CONNECTOR

CN2101	1-564-524-11	PLUG, CONNECTOR 9P			
CN2102	* 1-564-523-11	PLUG, CONNECTOR 8P			

HV

*** A-1372-509-A HV BOARD (VAR), COMPLETE**

CAPACITOR

C2068	1-104-665-11	ELECT	100MF	20%	25V
C2070	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C2072	1-164-096-11	CERAMIC	0.01MF		50V
C2231	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C2232	1-136-161-00	FILM	0.047MF	5%	50V
C2233	1-136-161-00	FILM	0.047MF	5%	50V
C2234	1-126-960-11	ELECT	1MF	20%	50V
C2235	1-126-960-11	ELECT	1MF	20%	50V

CONNECTOR

CN2002	* 1-564-518-11	PLUG, CONNECTOR 3P			

REF. NO.	PART NO.	DESCRIPTION			REMARK
		DIODE			
D2006	1-810-039-11	LED UNIT			
D2231	8-719-110-17	DIODE RD10ESB2			
D2232	8-719-110-17	DIODE RD10ESB2			
D2233	8-719-110-17	DIODE RD10ESB2			
D2236	8-719-110-17	DIODE RD10ESB2			
		IC			
IC2003	8-742-014-11	HYB IC SBX1981-51			
		JACK			
J2231	1-691-110-11	JACK, PIN 3P			
J2232	1-694-063-11	TERMINAL, S			
		RESISTOR			
R2003	1-216-017-91	RES, CHIP	47	5%	1/10W
R2009	1-216-033-00	RES, CHIP	220	5%	1/10W
R2010	1-216-033-00	RES, CHIP	220	5%	1/10W
R2231	1-216-022-00	RES, CHIP	75	5%	1/10W
R2232	1-216-022-00	RES, CHIP	75	5%	1/10W
R2233	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R2235	1-216-022-00	RES, CHIP	75	5%	1/10W
R2236	1-216-113-00	RES, CHIP	470K	5%	1/10W
R2237	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R2238	1-216-113-00	RES, CHIP	470K	5%	1/10W
R2239	1-216-065-91	RES, CHIP	4.7K	5%	1/10W

K

*** A-1380-585-A K BOARD, COMPLETE**

CAPACITOR

C1461	1-126-960-11	ELECT	1MF	20%	50V
C1462	1-126-960-11	ELECT	1MF	20%	50V
C1463	1-126-961-11	ELECT	2.2MF	20%	50V
C1464	1-104-666-11	ELECT	220MF	20%	25V
C1465	1-126-960-11	ELECT	1MF	20%	50V
C1467	1-104-664-11	ELECT	47MF	20%	25V
C1468	1-126-960-11	ELECT	1MF	20%	50V
C1470	1-104-666-11	ELECT	220MF	20%	25V
C1471	1-136-169-00	FILM	0.22MF	5%	50V
C1472	1-137-194-81	FILM	0.47MF	5%	50V
C1473	1-128-550-11	ELECT	2200MF	20%	50V
C1474	1-136-169-00	FILM	0.22MF	5%	50V
C1475	1-128-550-11	ELECT	2200MF	20%	50V
C1476	1-128-550-11	ELECT	2200MF	20%	50V
C1477	1-104-665-11	ELECT	100MF	20%	25V
C1478	1-126-969-11	ELECT	220MF	20%	50V

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

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K KG

REF. NO.	PART NO.	DESCRIPTION			REMARK
	CONNECTOR				
CN1461	*1-564-508-11	PLUG, CONNECTOR 5P			
CN1462	*1-564-507-11	PLUG, CONNECTOR 4P			
CN1463	*1-564-508-11	PLUG, CONNECTOR 5P			
	DIODE				
D1461	8-719-991-33	DIODE 1SS133T-77			
D1462	8-719-979-50	DIODE EGP30D			
D1463	8-719-991-33	DIODE 1SS133T-77			
D1464	8-719-991-33	DIODE 1SS133T-77			
D1465	8-719-991-33	DIODE 1SS133T-77			
D1466	8-719-979-50	DIODE EGP30D			
D1467	8-719-979-50	DIODE EGP30D			
	IC				
IC1461	8-759-089-13	IC TDA7262			
	IC LINK				
PS1461	⚠1-532-984-11	IC LINK, 2A/90V			
	TRANSISTOR				
Q1461	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q1462	8-729-216-22	TRANSISTOR 2SA1162-G			
Q1463	8-729-900-53	TRANSISTOR DTC114EK			
Q1464	8-729-900-53	TRANSISTOR DTC114EK			
Q1465	8-729-216-22	TRANSISTOR 2SA1162-G			
	RESISTOR				
R1461	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R1462	1-216-073-00	RES, CHIP	10K	5%	1/10W
R1464	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R1465	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R1466	1-216-089-91	RES, CHIP	47K	5%	1/10W
R1467	1-216-073-00	RES, CHIP	10K	5%	1/10W
R1469	1-249-385-11	CARBON	2.2	5%	1/4W F
R1470	1-249-385-11	CARBON	2.2	5%	1/4W F
R1471	1-216-089-91	RES, CHIP	47K	5%	1/10W
R1472	1-216-041-00	RES, CHIP	470	5%	1/10W
R1473	1-216-113-00	RES, CHIP	470K	5%	1/10W
R1474	1-216-077-00	RES, CHIP	15K	5%	1/10W
R1475	1-216-077-00	RES, CHIP	15K	5%	1/10W
R1476	1-247-791-91	CARBON	22	5%	1/4W
R1477	1-249-417-11	CARBON	1K	5%	1/4W F
R1478	1-247-791-91	CARBON	22	5%	1/4W
R1479	1-249-417-11	CARBON	1K	5%	1/4W F
R1480	1-249-421-11	CARBON	2.2K	5%	1/4W
R1481	1-249-421-11	CARBON	2.2K	5%	1/4W
R1482	1-216-073-00	RES, CHIP	10K	5%	1/10W
R1483	1-216-073-00	RES, CHIP	10K	5%	1/10W
R1487	1-216-025-91	RES, CHIP	100	5%	1/10W
R1488	1-216-073-00	RES, CHIP	10K	5%	1/10W

KG

*** A-1385-188-A KG BOARD, COMPLETE**

	CAPACITOR				
C801	1-126-960-11	ELECT	1MF	20%	50V
C802	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C803	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C804	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C805	1-163-113-00	CERAMIC CHIP	68PF	5%	50V
C806	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C807	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C808	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C810	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C816	1-104-665-11	ELECT	100MF	20%	10V
C818	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C819	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C820	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C821	1-126-964-11	ELECT	10MF	20%	50V
C822	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C830	1-104-664-11	ELECT	47MF	20%	16V
C831	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C832	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C833	1-104-664-11	ELECT	47MF	20%	16V
C834	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C835	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C836	1-104-664-11	ELECT	47MF	20%	16V
C837	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C838	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C839	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C840	1-104-664-11	ELECT	47MF	20%	16V
C841	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C843	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C844	1-104-664-11	ELECT	47MF	20%	16V
C850	1-104-664-11	ELECT	47MF	20%	16V
C851	1-126-767-11	ELECT	1000MF	20%	16V
C887	1-104-664-11	ELECT	47MF	20%	16V
C888	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C889	1-126-968-11	ELECT	100MF	20%	50V
C890	1-126-960-11	ELECT	1MF	20%	50V
C895	1-125-507-11	CAPACITOR	0.22F		5.5V
C896	1-104-664-11	ELECT	47MF	20%	16V
C897	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C8051	1-164-222-11	CERAMIC CHIP	0.22MF	5%	25V

KG

REF. NO.	PART NO.	DESCRIPTION			REMARK
		CONNECTOR			
CN801	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN802	* 1-564-507-11	PLUG, CONNECTOR 4P			
CN803	* 1-564-512-11	PLUG, CONNECTOR 9P			
CN804	* 1-564-505-11	PLUG, CONNECTOR 2P			
		DIODE			
D802	8-719-404-50	DIODE MA111-TX			
D803	8-719-510-02	DIODE D1NS4			
D804	8-719-110-17	DIODE RD10ESB2			
D805	8-719-110-17	DIODE RD10ESB2			
		IC			
IC801	8-759-535-81	IC LC27016B-MF2			
IC802	8-759-546-20	IC MX23C2000PC-12			
IC803	8-759-557-47	IC V53C16258SHK-50			
IC805	8-759-546-18	IC S-80748AL-EC-X			
IC806	8-759-009-51	IC MC14538BF			
		COIL			
L801	1-412-537-31	INDUCTOR	100UH		
		TRANSISTOR			
Q801	8-729-216-22	TRANSISTOR 2SA1162-G			
Q802	8-729-216-22	TRANSISTOR 2SA1162-G			
Q803	8-729-216-22	TRANSISTOR 2SA1162-G			
Q804	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q805	8-729-216-22	TRANSISTOR 2SA1162-G			
Q830	8-729-422-27	TRANSISTOR 2SD601A-Q			
		RESISTOR			
R801	1-216-295-91	SHORT			
R802	1-216-047-91	RES, CHIP	820	5%	1/10W
R803	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R804	1-216-105-91	RES, CHIP	220K	5%	1/10W
R806	1-216-043-91	RES, CHIP	560	5%	1/10W
R807	1-216-081-00	RES, CHIP	22K	5%	1/10W
R808	1-216-089-91	RES, CHIP	47K	5%	1/10W
R809	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R810	1-216-097-91	RES, CHIP	100K	5%	1/10W
R811	1-216-192-00	RES, CHIP	560	5%	1/8W
R812	1-216-009-91	RES, CHIP	22	5%	1/10W
R813	1-216-035-00	RES, CHIP	270	5%	1/10W
R814	1-216-019-00	RES, CHIP	56	5%	1/10W
R815	1-216-053-00	RES, CHIP	1.5K	5%	1/10W
R816	1-216-075-00	RES, CHIP	12K	5%	1/10W
R817	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R818	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R819	1-216-083-00	RES, CHIP	27K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R820	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R822	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R823	1-216-037-00	RES, CHIP	330	5%	1/10W
R824	1-216-049-91	RES, CHIP	1K	5%	1/10W
R825	1-216-121-91	RES, CHIP	1M	5%	1/10W
R826	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R834	1-216-025-91	RES, CHIP	100	5%	1/10W
R835	1-216-025-91	RES, CHIP	100	5%	1/10W
R878	1-216-295-91	SHORT			
R8001	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8002	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8003	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8004	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8005	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8006	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8007	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8008	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8009	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8010	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8011	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8012	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8013	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8014	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8015	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8016	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8017	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8018	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8019	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8020	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8021	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8022	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8023	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8024	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8025	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8026	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8027	1-216-097-91	RES, CHIP	100K	5%	1/10W
R8028	1-216-073-00	RES, CHIP	10K	5%	1/10W
R8030	1-216-295-91	SHORT			
R8032	1-216-073-00	RES, CHIP	10K	5%	1/10W
R8033	1-216-073-00	RES, CHIP	10K	5%	1/10W
R8034	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R8035	1-216-304-11	RES, CHIP	3.3	5%	1/10W
R8037	1-216-025-91	RES, CHIP	100	5%	1/10W
R8038	1-216-025-91	RES, CHIP	100	5%	1/10W
R8039	1-216-025-91	RES, CHIP	100	5%	1/10W
R8040	1-216-025-91	RES, CHIP	100	5%	1/10W
R8041	1-216-029-00	RES, CHIP	150	5%	1/10W
R8042	1-216-025-91	RES, CHIP	100	5%	1/10W
R8043	1-216-049-91	RES, CHIP	1K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R8044	1-216-083-00	RES, CHIP	27K	5%	1/10W
R8045	1-216-033-00	RES, CHIP	220	5%	1/10W
R8046	1-216-033-00	RES, CHIP	220	5%	1/10W
R8047	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R8051	1-216-067-00	RES, CHIP	5.6K	5%	1/10W
R8061	1-216-025-91	RES, CHIP	100	5%	1/10W
R8062	1-216-025-91	RES, CHIP	100	5%	1/10W
R8063	1-216-025-91	RES, CHIP	100	5%	1/10W
R8064	1-216-025-91	RES, CHIP	100	5%	1/10W
		CRYSTAL			
X801	1-781-072-11	CRYSTAL, VIBRATOR			

P

*** A-1195-138-A P BOARD, COMPLETE**

		CAPACITOR			
C3319	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3320	1-126-960-11	ELECT	1MF	20%	50V
C3321	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C3322	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C3323	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3324	1-104-664-11	ELECT	47MF	20%	16V
C3328	1-104-664-11	ELECT	47MF	20%	16V
C3329	1-104-664-11	ELECT	47MF	20%	16V
C3330	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3331	1-104-664-11	ELECT	47MF	20%	16V
C3332	1-104-664-11	ELECT	47MF	20%	25V
C3334	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3335	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3336	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3337	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C3340	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3346	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3347	1-126-960-11	ELECT	1MF	20%	50V
C3348	1-104-664-11	ELECT	47MF	20%	16V
C3349	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C3350	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C3352	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3353	1-164-346-11	CERAMIC CHIP	1MF		16V
C3354	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3355	1-126-925-11	ELECT	470MF	20%	10V
C3356	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3357	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3358	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3359	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3360	1-163-038-91	CERAMIC CHIP	0.1MF		25V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C3361	1-163-038-91	CERAMIC CHIP	0.1MF		25V
C3362	1-126-925-11	ELECT	470MF	20%	10V
C3363	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C3364	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C3365	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C3366	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C3367	1-126-963-11	ELECT	4.7MF	20%	50V
C3368	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C3369	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C3370	1-164-346-11	CERAMIC CHIP	1MF		16V
C3371	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C3372	1-164-005-11	CERAMIC CHIP	0.47MF		25V
		CONNECTOR			
CN3301	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P			
		IC			
IC3302	8-759-231-53	IC TA7805S			
IC3303	8-759-533-89	IC SDA9288XE-GEG-B121			
IC3304	8-752-086-80	IC CXA2019AQ-T4			
		COIL			
L3301	1-408-607-31	INDUCTOR	22UH		
L3302	1-410-473-11	INDUCTOR	18UH		
L3303	1-408-612-31	INDUCTOR	56UH		
		TRANSISTOR			
Q3301	8-729-422-27	TRANSISTOR	2SD601A-Q		
Q3302	8-729-216-22	TRANSISTOR	2SA1162-G		
Q3306	8-729-216-22	TRANSISTOR	2SA1162-G		
Q3310	8-729-422-27	TRANSISTOR	2SD601A-Q		
Q3312	8-729-216-22	TRANSISTOR	2SA1162-G		
Q3314	8-729-216-22	TRANSISTOR	2SA1162-G		
		RESISTOR			
R3301	1-216-295-91	SHORT			
R3302	1-216-295-91	SHORT			
R3305	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3312	1-216-037-00	RES, CHIP	330	5%	1/10W
R3313	1-216-295-91	SHORT			
R3314	1-216-049-91	RES, CHIP	1K	5%	1/10W
R3323	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R3329	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R3330	1-216-295-91	SHORT			
R3337	1-216-033-00	RES, CHIP	220	5%	1/10W
R3338	1-216-033-00	RES, CHIP	220	5%	1/10W
R3339	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3340	1-216-041-00	RES, CHIP	470	5%	1/10W

P UV

REF. NO.	PART NO.	DESCRIPTION			REMARK
R3341	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3342	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3343	1-216-049-91	RES, CHIP	1K	5%	1/10W
R3346	1-216-049-91	RES, CHIP	1K	5%	1/10W
R3351	1-216-295-91	SHORT			
R3352	1-216-049-91	RES, CHIP	1K	5%	1/10W
R3358	1-216-047-91	RES, CHIP	820	5%	1/10W
R3359	1-216-047-91	RES, CHIP	820	5%	1/10W
R3360	1-216-053-00	RES, CHIP	1.5K	5%	1/10W
R3361	1-216-053-00	RES, CHIP	1.5K	5%	1/10W
R3362	1-216-041-00	RES, CHIP	470	5%	1/10W
R3363	1-216-041-00	RES, CHIP	470	5%	1/10W
R3364	1-216-041-00	RES, CHIP	470	5%	1/10W
R3375	1-216-041-00	RES, CHIP	470	5%	1/10W
R3376	1-216-071-00	RES, CHIP	8.2K	5%	1/10W
R3377	1-216-073-00	RES, CHIP	10K	5%	1/10W
R3378	1-216-655-11	RES, CHIP	1.5K	0.50%	1/10W
R3379	1-216-077-00	RES, CHIP	15K	5%	1/10W
R3380	1-216-025-91	RES, CHIP	100	5%	1/10W
R3381	1-216-025-91	RES, CHIP	100	5%	1/10W
R3382	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R3383	1-216-025-91	RES, CHIP	100	5%	1/10W
R3384	1-216-033-00	RES, CHIP	220	5%	1/10W
R3385	1-216-109-00	RES, CHIP	330K	5%	1/10W
R3386	1-216-295-91	SHORT			
R3387	1-216-295-91	SHORT			
R3388	1-216-295-91	SHORT			
R3393	1-216-025-91	RES, CHIP	100	5%	1/10W
R3394	1-216-025-91	RES, CHIP	100	5%	1/10W
R3395	1-216-061-00	RES, CHIP	3.3K	5%	1/10W

CRYSTAL

X3302	1-760-095-21	VIBRATOR, CRYSTAL	
X3303	1-577-611-11	OSCILALTOR, CERAMIC	
X3304	1-567-505-11	OSCILLATOR, CRYSTAL	

UV

*** A-1394-923-A UV BOARD, COMPLETE**

CAPACITOR

C100	1-164-346-11	CERAMIC CHIP	1MF		16V
C101	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C102	1-164-346-11	CERAMIC CHIP	1MF		16V
C103	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C104	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C105	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C150	1-126-956-91	ELECT	0.1MF	20%	50V
C153	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C154	1-126-963-11	ELECT	4.7MF	20%	50V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C155	1-126-963-11	ELECT	4.7MF	20%	50V
C156	1-126-963-11	ELECT	4.7MF	20%	50V
C158	1-126-963-11	ELECT	4.7MF	20%	50V
C160	1-126-964-11	ELECT	10MF	20%	50V
C161	1-126-956-91	ELECT	0.1MF	20%	50V
C162	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C163	1-104-664-11	ELECT	47MF	20%	25V
C164	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C165	1-126-964-11	ELECT	10MF	20%	50V
C168	1-126-963-11	ELECT	4.7MF	20%	50V
C171	1-126-941-11	ELECT	470MF	20%	25V
C172	1-126-959-11	ELECT	0.47MF	20%	50V
C173	1-126-959-11	ELECT	0.47MF	20%	50V
C174	1-126-964-11	ELECT	10MF	20%	50V
C176	1-126-964-11	ELECT	10MF	20%	50V
C177	1-126-964-11	ELECT	10MF	20%	50V
C178	1-126-964-11	ELECT	10MF	20%	50V
C179	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C180	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C181	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C182	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V
C183	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C184	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C185	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C187	1-126-964-11	ELECT	10MF	20%	50V
C188	1-126-956-91	ELECT	0.1MF	20%	50V
C189	1-126-956-91	ELECT	0.1MF	20%	50V
C190	1-163-986-00	CERAMIC CHIP	0.027MF	10%	25V
C191	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C192	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C193	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C194	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C195	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C196	1-126-965-11	ELECT	22MF	20%	50V
C197	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C198	1-126-960-11	ELECT	1MF	20%	50V
C199	1-165-319-11	CERAMIC CHIP	0.1MF		50V
C231	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C232	1-136-161-00	FILM	0.047MF	5%	50V
C233	1-136-161-00	FILM	0.047MF	5%	50V
C234	1-126-960-11	ELECT	1MF	20%	50V
C235	1-126-960-11	ELECT	1MF	20%	50V
C236	1-136-161-00	FILM	0.047MF	5%	50V
C237	1-126-960-11	ELECT	1MF	20%	50V
C238	1-126-960-11	ELECT	1MF	20%	50V
C241	1-126-941-11	ELECT	470MF	20%	25V
C242	1-126-959-11	ELECT	0.47MF	20%	50V
C244	1-126-959-11	ELECT	0.47MF	20%	50V
C245	1-126-941-11	ELECT	470MF	20%	25V
C246	1-126-959-11	ELECT	0.47MF	20%	50V

REF. NO.	PART NO.	DESCRIPTION			REMARK
C247	1-126-959-11	ELECT	0.47MF	20%	50V
C261	1-136-161-00	FILM	0.047MF	5%	50V
C262	1-104-664-11	ELECT	47MF	20%	25V
C263	1-136-161-00	FILM	0.047MF	5%	50V
C264	1-126-941-11	ELECT	470MF	20%	25V
C266	1-126-960-11	ELECT	1MF	20%	50V
C267	1-126-960-11	ELECT	1MF	20%	50V
C270	1-126-960-11	ELECT	1MF	20%	50V
C271	1-126-960-11	ELECT	1MF	20%	50V
C275	1-104-664-11	ELECT	47MF	20%	25V
C276	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
	CONNECTOR				
CN261	* 1-691-632-21	CONNECTOR, BOARD TO BOARD 15P			
CN262	1-573-301-21	CONNECTOR, BOARD TO BOARD 20P			
CN263	* 1-564-506-11	PLUG, CONNECTOR 3P			
CN264	1-573-979-21	CONNECTOR, BOARD TO BOARD 11P			
CN265	* 1-564-508-11	PLUG, CONNECTOR 5P			
CN1804	* 1-564-505-11	PLUG, CONNECTOR 2P			
	DIODE				
D100	8-719-981-99	DIODE MTZJ-3.3			
D231	8-719-110-17	DIODE RD10ESB2			
D232	8-719-110-17	DIODE RD10ESB2			
D233	8-719-110-17	DIODE RD10ESB2			
D234	8-719-110-17	DIODE RD10ESB2			
D235	8-719-110-17	DIODE RD10ESB2			
D236	8-719-110-17	DIODE RD10ESB2			
D237	8-719-981-99	DIODE MTZJ-3.3			
D238	8-719-981-99	DIODE MTZJ-3.3			
D239	8-719-981-99	DIODE MTZJ-3.3			
D240	8-719-110-17	DIODE RD10ESB2			
D241	8-719-110-17	DIODE RD10ESB2			
D242	8-719-110-17	DIODE RD10ESB2			
D243	8-719-110-17	DIODE RD10ESB2			
D244	8-719-110-17	DIODE RD10ESB2			
D245	8-719-981-99	DIODE MTZJ-3.3			
D246	8-719-981-99	DIODE MTZJ-3.3			
D264	8-719-110-17	DIODE RD10ESB2			
D265	8-719-110-17	DIODE RD10ESB2			
D901	8-719-110-17	DIODE RD10ESB2			
D902	8-719-110-17	DIODE RD10ESB2			
	IC				
IC100	8-752-072-39	IC CXA2021S			
IC101	8-759-100-96	IC UPC4558G2			
IC102	8-759-537-25	IC NJM2150M-TE2			
IC103	8-759-537-26	IC TDA7467D013TR			
IC261	8-759-534-81	IC MM1313AD/			

REF. NO.	PART NO.	DESCRIPTION			REMARK
	JACK				
J231	1-750-515-11	TERMINAL BLOCK, S 3P			
J232	1-750-517-11	JACK BLOCK, PIN 3P			
J233	1-750-516-11	JACK BLOCK, PIN 2P			
J234	1-750-517-11	JACK BLOCK, PIN 3P			
J235	1-750-517-11	JACK BLOCK, PIN 3P			
J901	1-764-143-11	JACK BLOCK, 3P			
J902	1-764-143-11	JACK BLOCK, 3P			
J903	1-764-143-11	JACK BLOCK, 3P			
J904	1-764-143-11	JACK BLOCK, 3P			
	CHIIP CONDUCTOR				
JR106	1-216-295-91	SHORT			
JR107	1-216-295-91	SHORT			
JR112	1-216-295-91	SHORT			
JR201	1-216-295-91	SHORT			
JR204	1-216-295-91	SHORT			
JR205	1-216-295-91	SHORT			
JR269	1-216-295-91	SHORT			
JR270	1-216-295-91	SHORT			
JR272	1-216-295-91	SHORT			
JR273	1-216-295-91	SHORT			
JR274	1-216-295-91	SHORT			
JR276	1-216-295-91	SHORT			
JR901	1-216-295-91	SHORT			
JR902	1-216-295-91	SHORT			
JR903	1-216-295-91	SHORT			
	JUMPER WIRE				
JW226	1-249-389-11	CARBON	4.7	5%	1/4W
	TRANSISTOR				
Q100	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q101	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q231	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q232	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q233	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q234	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q235	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q236	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q237	8-729-216-22	TRANSISTOR 2SA1162-G			
Q238	8-729-216-22	TRANSISTOR 2SA1162-G			
Q239	8-729-216-22	TRANSISTOR 2SA1162-G			
Q240	8-729-216-22	TRANSISTOR 2SA1162-G			
Q241	8-729-216-22	TRANSISTOR 2SA1162-G			
Q242	8-729-216-22	TRANSISTOR 2SA1162-G			
Q243	8-729-216-22	TRANSISTOR 2SA1162-G			

UV

REF. NO.	PART NO.	DESCRIPTION			REMARK
Q261	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q262	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q263	8-729-216-22	TRANSISTOR 2SA1162-G			
Q265	8-729-216-22	TRANSISTOR 2SA1162-G			
	RESISTOR				
R100	1-216-033-00	RES, CHIP	220	5%	1/10W
R101	1-216-033-00	RES, CHIP	220	5%	1/10W
R102	1-216-073-00	RES, CHIP	10K	5%	1/10W
R103	1-216-085-00	RES, CHIP	33K	5%	1/10W
R104	1-216-089-91	RES, CHIP	47K	5%	1/10W
R105	1-216-089-91	RES, CHIP	47K	5%	1/10W
R106	1-216-049-91	RES, CHIP	1K	5%	1/10W
R107	1-216-049-91	RES, CHIP	1K	5%	1/10W
R108	1-216-073-00	RES, CHIP	10K	5%	1/10W
R109	1-216-089-91	RES, CHIP	47K	5%	1/10W
R110	1-216-089-91	RES, CHIP	47K	5%	1/10W
R111	1-216-025-91	RES, CHIP	100	5%	1/10W
R112	1-216-121-91	RES, CHIP	1M	5%	1/10W
R113	1-216-081-00	RES, CHIP	22K	5%	1/10W
R114	1-216-081-00	RES, CHIP	22K	5%	1/10W
R115	1-216-081-00	RES, CHIP	22K	5%	1/10W
R116	1-216-081-00	RES, CHIP	22K	5%	1/10W
R117	1-216-073-00	RES, CHIP	10K	5%	1/10W
R118	1-216-073-00	RES, CHIP	10K	5%	1/10W
R119	1-216-073-00	RES, CHIP	10K	5%	1/10W
R124	1-216-033-00	RES, CHIP	220	5%	1/10W
R125	1-216-033-00	RES, CHIP	220	5%	1/10W
R126	1-216-063-91	RES, CHIP	3.9K	5%	1/10W
R127	1-216-089-91	RES, CHIP	47K	5%	1/10W
R128	1-216-085-00	RES, CHIP	33K	5%	1/10W
R129	1-216-053-00	RES, CHIP	1.5K	5%	1/10W
R130	1-216-100-00	RES, CHIP	130K	5%	1/10W
R131	1-216-049-91	RES, CHIP	1K	5%	1/10W
R132	1-216-088-00	RES, CHIP	43K	5%	1/10W
R133	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R134	1-216-061-00	RES, CHIP	3.3K	5%	1/10W
R135	1-216-097-91	RES, CHIP	100K	5%	1/10W
R136	1-216-085-00	RES, CHIP	33K	5%	1/10W
R137	1-216-025-91	RES, CHIP	100	5%	1/10W
R141	1-216-295-91	SHORT			
R142	1-216-295-91	SHORT			
R201	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R202	1-216-049-91	RES, CHIP	1K	5%	1/10W
R203	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R204	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R206	1-216-049-91	RES, CHIP	1K	5%	1/10W
R207	1-216-295-91	SHORT			
R208	1-216-049-91	RES, CHIP	1K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R209	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R210	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R212	1-249-440-11	CARBON	82K	5%	1/4W
R213	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R214	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R215	1-249-413-11	CARBON	470	5%	1/4W
R216	1-216-025-91	RES, CHIP	100	5%	1/10W
R217	1-216-025-91	RES, CHIP	100	5%	1/10W
R218	1-216-025-91	RES, CHIP	100	5%	1/10W
R219	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R220	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R221	1-249-413-11	CARBON	470	5%	1/4W
R222	1-216-025-91	RES, CHIP	100	5%	1/10W
R223	1-216-025-91	RES, CHIP	100	5%	1/10W
R224	1-216-025-91	RES, CHIP	100	5%	1/10W
R225	1-247-815-91	CARBON	220	5%	1/4W
R226	1-247-815-91	CARBON	220	5%	1/4W
R227	1-249-440-11	CARBON	82K	5%	1/4W
R228	1-216-033-00	RES, CHIP	220	5%	1/10W
R229	1-216-025-91	RES, CHIP	100	5%	1/10W
R230	1-216-033-00	RES, CHIP	220	5%	1/10W
R231	1-216-022-00	RES, CHIP	75	5%	1/10W
R232	1-216-022-00	RES, CHIP	75	5%	1/10W
R233	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R234	1-216-022-00	RES, CHIP	75	5%	1/10W
R235	1-216-113-00	RES, CHIP	470K	5%	1/10W
R236	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R237	1-216-113-00	RES, CHIP	470K	5%	1/10W
R238	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R239	1-216-022-00	RES, CHIP	75	5%	1/10W
R240	1-216-113-00	RES, CHIP	470K	5%	1/10W
R241	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R242	1-216-113-00	RES, CHIP	470K	5%	1/10W
R243	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R244	1-216-113-00	RES, CHIP	470K	5%	1/10W
R245	1-249-417-11	CARBON	1K	5%	1/4W
R246	1-216-113-00	RES, CHIP	470K	5%	1/10W
R247	1-249-417-11	CARBON	1K	5%	1/4W
R248	1-216-021-00	RES, CHIP	68	5%	1/10W
R249	1-216-113-00	RES, CHIP	470K	5%	1/10W
R250	1-216-113-00	RES, CHIP	470K	5%	1/10W
R251	1-216-113-00	RES, CHIP	470K	5%	1/10W
R252	1-216-019-00	RES, CHIP	56	5%	1/10W
R253	1-216-113-00	RES, CHIP	470K	5%	1/10W
R254	1-216-113-00	RES, CHIP	470K	5%	1/10W
R255	1-216-113-00	RES, CHIP	470K	5%	1/10W
R256	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R258	1-216-069-00	RES, CHIP	6.8K	5%	1/10W
R259	1-216-065-91	RES, CHIP	4.7K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R260	1-247-807-31	CARBON	100	5%	1/4W
R261	1-216-009-91	RES, CHIP	22	5%	1/10W
R264	1-247-815-91	CARBON	220	5%	1/4W
R265	1-247-815-91	CARBON	220	5%	1/4W
R266	1-216-295-91	SHORT			
R267	1-249-415-11	CARBON	680	5%	1/4W
R268	1-216-025-91	RES, CHIP	100	5%	1/10W
R269	1-216-025-91	RES, CHIP	100	5%	1/10W
R270	1-216-041-00	RES, CHIP	470	5%	1/10W
R271	1-249-415-11	CARBON	680	5%	1/4W
R272	1-249-417-11	CARBON	1K	5%	1/4W
R274	1-249-413-11	CARBON	470	5%	1/4W
R275	1-249-425-11	CARBON	4.7K	5%	1/4W
R276	1-249-425-11	CARBON	4.7K	5%	1/4W
R277	1-216-049-91	RES, CHIP	1K	5%	1/10W
R278	1-249-413-11	CARBON	470	5%	1/4W
R279	1-216-025-91	RES, CHIP	100	5%	1/10W
R280	1-216-033-00	RES, CHIP	220	5%	1/10W
R281	1-216-033-00	RES, CHIP	220	5%	1/10W
R282	1-216-025-91	RES, CHIP	100	5%	1/10W
R283	1-216-025-91	RES, CHIP	100	5%	1/10W
R284	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R285	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R286	1-216-049-91	RES, CHIP	1K	5%	1/10W
R288	1-247-815-91	CARBON	220	5%	1/4W
R289	1-247-815-91	CARBON	220	5%	1/4W
R290	1-247-815-91	CARBON	220	5%	1/4W
R291	1-216-025-91	RES, CHIP	100	5%	1/10W
R293	1-216-025-91	RES, CHIP	100	5%	1/10W
R294	1-216-049-91	RES, CHIP	1K	5%	1/10W
R901	1-249-405-11	CARBON	100	5%	1/4W F
R902	1-249-405-11	CARBON	100	5%	1/4W F
R919	1-216-295-91	SHORT			
R920	1-249-405-11	CARBON	100	5%	1/4W F
R921	1-249-405-11	CARBON	100	5%	1/4W F
R922	1-216-049-91	RES, CHIP	1K	5%	1/10W
R923	1-216-049-91	RES, CHIP	1K	5%	1/10W
R924	1-216-049-91	RES, CHIP	1K	5%	1/10W

WA

*** A-1372-462-A WA BOARD, COMPLETE (KV-35V68 ONLY)**

4-382-854-11 SCREW (M3X10), P, SW (+)

CAPACITOR

C941	1-126-935-11	ELECT	470MF	20%	16V
C944	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C945	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C946	1-126-933-11	ELECT	100MF	20%	16V
C949	1-161-830-00	CERAMIC	0.0047MF		500V
C950	1-126-933-11	ELECT	100MF	20%	16V
C951	1-107-638-11	ELECT	33MF	20%	160V
C952	1-104-999-11	MYLAR	0.1MF	10%	200V
C953	1-106-383-00	MYLAR	0.047MF	10%	200V
C954	1-130-471-00	FILM	0.001MF	5%	50V
C955	1-107-667-11	ELECT	2.2MF	20%	160V
C956	1-130-471-00	FILM	0.001MF	5%	50V
C957	1-106-383-00	MYLAR	0.047MF	10%	200V
C958	1-126-933-11	ELECT	100MF	20%	16V
C961	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C962	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C965	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C966	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C967	1-129-718-00	FILM	0.022MF	5%	630V
C968	1-137-579-11	FILM	0.068MF	5%	100V
C969	1-163-035-00	CERAMIC CHIP	0.047MF		50V
C981	1-126-941-11	ELECT	470MF	20%	25V
C983	1-137-366-11	FILM	0.0022MF	5%	50V

CONNECTOR

CN941	* 1-564-511-11	PLUG, CONNECTOR 8P
CN961	* 1-770-723-11	CONNECTOR, BOARD TO BOARD 8P
CN981	* 1-564-506-11	PLUG, CONNECTOR 3P

DIODE

D941	8-719-991-33	DIODE 1SS133T-77
D946	8-719-110-88	DIODE RD39ESB2
D947	8-719-110-88	DIODE RD39ESB2
D961	8-719-109-89	DIODE RD5.6ESB2
D962	8-719-991-33	DIODE 1SS133T-77
D964	8-719-302-43	DIODE EL1Z

IC

IC961	8-759-700-07	IC NJM2903M
IC981	8-759-603-37	IC M5216P

JUMPER WIRE

JW919	1-136-165-00	FILM	0.1MF	5%	50V

COIL

L942	1-215-863-11	METAL OXIDE	100	5%	1W F
L962	1-406-989-21	INDUCTOR	10MMH		
L963	1-406-675-11	INDUCTOR	4.7MMH		

TRANSISTOR

Q943	8-729-422-27	TRANSISTOR 2SD601A-Q
Q944	8-729-422-27	TRANSISTOR 2SD601A-Q

WA WB

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

REF. NO.	PART NO.	DESCRIPTION			REMARK
Q945	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q946	8-729-017-05	TRANSISTOR 2SA1837			
Q947	8-729-017-06	TRANSISTOR 2SC4793			
Q962	8-729-931-45	TRANSISTOR IRF614			
Q963	8-729-216-22	TRANSISTOR 2SA1162-G			
Q965	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q966	8-729-216-22	TRANSISTOR 2SA1162-G			
Q981	8-729-422-27	TRANSISTOR 2SD601A-Q			
	RESISTOR				
R943	1-216-025-91	RES, CHIP	100	5%	1/10W
R948	1-216-049-91	RES, CHIP	1K	5%	1/10W
R949	1-216-049-91	RES, CHIP	1K	5%	1/10W
R950	1-216-049-91	RES, CHIP	1K	5%	1/10W
R951	1-216-049-91	RES, CHIP	1K	5%	1/10W
R952	1-216-037-00	RES, CHIP	330	5%	1/10W
R953	1-216-021-00	RES, CHIP	68	5%	1/10W
R954	1-216-033-00	RES, CHIP	220	5%	1/10W
R955	1-216-047-91	RES, CHIP	820	5%	1/10W
R956	1-216-295-91	SHORT			
R957	1-216-073-00	RES, CHIP	10K	5%	1/10W
R958	1-216-295-91	SHORT			
R959	1-216-021-00	RES, CHIP	68	5%	1/10W
R960	1-216-689-11	RES, CHIP	39K	5%	1/10W
R961	1-216-073-00	RES, CHIP	10K	5%	1/10W
R962	1-216-057-00	RES, CHIP	2.2K	5%	1/10W
R963	1-216-097-91	RES, CHIP	100K	5%	1/10W
R964	1-216-073-00	RES, CHIP	10K	5%	1/10W
R965	1-216-073-00	RES, CHIP	10K	5%	1/10W
R966	1-216-097-91	RES, CHIP	100K	5%	1/10W
R967	1-216-065-91	RES, CHIP	4.7K	5%	1/10W
R968	1-216-083-00	RES, CHIP	27K	5%	1/10W
R969	1-216-295-91	SHORT			
R970	1-216-033-00	RES, CHIP	220	5%	1/10W
R971	1-247-899-11	CARBON	680K	5%	1/4W
R972	1-216-073-00	RES, CHIP	10K	5%	1/10W
R973	1-216-121-91	RES, CHIP	1M	5%	1/10W
R974	1-216-073-00	RES, CHIP	10K	5%	1/10W
R975 ⚠	1-216-446-00	METAL OXIDE	18	5%	2W F
R976 ⚠	1-216-423-11	METAL OXIDE	27	5%	1W F
R979	1-216-017-91	RES, CHIP	47	5%	1/10W
R981	1-216-081-00	RES, CHIP	22K	5%	1/10W
R982	1-216-081-00	RES, CHIP	22K	5%	1/10W
R983	1-216-081-00	RES, CHIP	22K	5%	1/10W
R984	1-216-081-00	RES, CHIP	22K	5%	1/10W
R987	1-216-049-91	RES, CHIP	1K	5%	1/10W
R988	1-216-295-91	SHORT			
R989	1-216-304-11	RES, CHIP	3.3	5%	1/10W
R992	1-216-073-00	RES, CHIP	10K	5%	1/10W

REF. NO.	PART NO.	DESCRIPTION			REMARK
R1941	1-260-311-51	CARBON	39	5%	1/2W
R1942	1-249-384-11	CARBON	1.8	5%	1/4W F
R1943	1-249-414-11	CARBON	560	5%	1/4W F
R1944	1-249-432-11	CARBON	18K	5%	1/4W
R1945	1-216-476-11	METAL OXIDE	180	5%	3W F
R1946	1-249-417-11	CARBON	1K	5%	1/4W F
R1947	1-249-432-11	CARBON	18K	5%	1/4W
R1948	1-249-414-11	CARBON	560	5%	1/4W
R1949	1-249-384-11	CARBON	1.8	5%	1/4W F
R1950	1-249-400-11	CARBON	39	5%	1/4W F

WB

***A-1372-508-A WB BOARD, COMPLETE (KV-32V68 ONLY)**

4-382-854-11 SCREW (M3X10), P, SW (+)

CAPACITOR

C2941	1-126-935-11	ELECT	470MF	20%	16V
C2944	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C2946	1-126-933-11	ELECT	100MF	20%	16V
C2949	1-161-830-00	CERAMIC	0.0047MF		500V
C2950	1-126-933-11	ELECT	100MF	20%	16V
C2951	1-107-638-11	ELECT	33MF	20%	160V
C2952	1-104-999-11	MYLAR	0.1MF	10%	200V
C2953	1-106-383-00	MYLAR	0.047MF	10%	200V
C2954	1-130-471-00	FILM	0.001MF	5%	50V
C2955	1-107-667-11	ELECT	2.2MF	20%	160V
C2956	1-130-471-00	FILM	0.001MF	5%	50V
C2957	1-106-383-00	MYLAR	0.047MF	10%	200V
C2958	1-126-933-11	ELECT	100MF	20%	16V
C2975	1-163-001-11	CERAMIC CHIP	220PF	10%	50V

CONNECTOR

CN2941 * 1-564-508-11 PLUG, CONNECTOR 5P

DIODE

D2941	8-719-991-33	DIODE 1SS133T-77
D2946	8-719-110-88	DIODE RD39ESB2
D2947	8-719-110-88	DIODE RD39ESB2

COIL

L2942 1-215-863-11 METAL OXIDE 100 5% 1W F

TRANSISTOR

Q2943	8-729-422-27	TRANSISTOR 2SD601A-Q
Q2944	8-729-422-27	TRANSISTOR 2SD601A-Q
Q2945	8-729-422-27	TRANSISTOR 2SD601A-Q
Q2946	8-729-017-05	TRANSISTOR 2SA1837

REF. NO.	PART NO.	DESCRIPTION			REMARK
Q2947	8-729-017-06	TRANSISTOR 2SC4793			
Q2965	8-729-422-27	TRANSISTOR 2SD601A-Q			
Q2966	8-729-216-22	TRANSISTOR 2SA1162-G			
	RESISTOR				
R2943	1-216-025-91	RES, CHIP	100	5%	1/10W
R2948	1-216-049-91	RES, CHIP	1K	5%	1/10W
R2949	1-216-049-91	RES, CHIP	1K	5%	1/10W
R2950	1-216-049-91	RES, CHIP	1K	5%	1/10W
R2951	1-216-049-91	RES, CHIP	1K	5%	1/10W
R2952	1-216-037-00	RES, CHIP	330	5%	1/10W
R2953	1-216-021-00	RES, CHIP	68	5%	1/10W
R2954	1-216-033-00	RES, CHIP	220	5%	1/10W
R2955	1-216-047-91	RES, CHIP	820	5%	1/10W
R2956	1-216-295-91	SHORT			
R2957	1-216-073-00	RES, CHIP	10K	5%	1/10W
R2958	1-216-295-91	SHORT			
R2959	1-216-021-00	RES, CHIP	68	5%	1/10W
R2979	1-216-017-91	RES, CHIP	47	5%	1/10W
R4941	1-260-311-51	CARBON	39	5%	1/2W
R4942	1-249-384-11	CARBON	1.8	5%	1/4W F
R4943	1-249-414-11	CARBON	560	5%	1/4W F
R4944	1-249-432-11	CARBON	18K	5%	1/4W
R4945	1-216-476-11	METAL OXIDE	180	5%	3W F
R4946	1-249-417-11	CARBON	1K	5%	1/4W F
R4947	1-249-432-11	CARBON	18K	5%	1/4W
R4948	1-249-414-11	CARBON	560	5%	1/4W
R4949	1-249-384-11	CARBON	1.8	5%	1/4W F
R4950	1-249-400-11	CARBON	39	5%	1/4W F
	ACCESSORIES AND PACKING MATERIALS				
	3-862-569-21	MANUAL, INSTRUCTION (ENGLISH)			
	3-862-569-31	MANUAL, INSTRUCTION (FRENCH)			
*	4-054-067-02	CUSHION (UPPER) (ASSY)			(KV-32V68)
*	4-067-387-01	CUSHION (UPPER) (ASSY)			(KV-35V68)
*	4-054-070-04	CUSHION (LOWER) (ASSY)			(KV-32V68)
*	4-067-388-01	CUSHION (LOWER) (ASSY)			(KV-35V68)
*	4-041-259-01	BAG, PROTECTION			(KV-32V68)
*	4-053-658-01	BAG, PROTECTION			(KV-35V68)
*	4-054-073-01	CARTON, INDIVIDUAL			(KV-32V68)
*	4-065-458-01	CARTON, INDIVIDUAL			(KV-35V68)
	INFRARED BLASTER				
	1-782-913-21	IR BLASTER			
	REMOTE COMMANDER				
	1-475-930-11	REMOTE COMMANDER (RM-Y154)			
	4-978-977-01	BATTERY COVER (FOR REMOTE)			

Sony Corporation
Sony Technology Center
Product Quality Division
Service Promotion Department

English
99CT74371-1
Printed in U.S.A.
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9-965-846-01